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CONSTRUCTION.

THE Mexican Central Railroad is within 35 miles of Chihuahua.

THE New York, Texas and Mexican Railroad has been completed to Victoria, Texas.

THE New York, Chicago and St. Louis Railroad Company has 486.97 miles of track laid.

STEEL rails are being laid on the Cleveland and Marietta Railroad between Kimbolton and Miller's.

THE Galveston, Harrisburg and San Antonio division of the Southern Pacific Railroad has reached a point 345 miles from El Paso.

THE Denver and Rio Grande Railway Company opened its lines for business to Silverton, a distance 495 miles from Denver, on the 12th inst.

THE Colebrookdale Railroad, running from the Pennsylvania Railroad to the Cornwall ore beds, in Lebanon county, has been completed.

THE Texas and St. Louis Railroad will be completed October 1 from Gatesville, Texas, to a connection with the Illinois Central, a distance of 732 miles.

THE Central Iowa Railroad Company has just laid forty miles of rail on the Eastern Division Mississippi extension, which will be in operation by September 1.

TRAINS commenced running on the Georgian Bay and Lake Erie Railway—the extension of the Port Dover Railway—from Wiarton to Chesley on the 12th inst.

GRADING has again commenced on the Phoenixville and Frazer branch of the Pennsylvania Railroad. It is expected that the road will be completed early in the fall.

ANOTHER line of railroad from Detroit to the Ohio river has been opened by the completion of the Cincinnati, Wabash and Michigan Railroad, from Niles southward.

THE Boston, Hoosac Tunnel and Western Railroad Company has opened a branch to Saratoga, N. Y., and ran two through trains between Saratoga and Boston on the 5th inst.

THE last rail on the New Orleans Pacific Railroad connecting New Orleans by the Southern Pacific with San Francisco, was laid on the 12th inst., at a point just beyond Atchafalyn River.

THE Brockton extension of the Buffalo, Pittsburgh and Western Railroad was opened to

Dunkirk on the 11th inst., and by September 1 it is expected the complete extension will be opened for business.

A SURVEYING party is now engaged in exploring a route for a line to connect the Virginia Midland's Manassas branch ending at Strasburg, Va., with Senator Davis's West Virginia Central and Pittsburgh Railroad.

THE extension of the East Tennessee, Virginia and Georgia Railroad from Atlanta to Macon is completed, and the system is expected to be finished this month by the connection with Rome. The earnings of the road show steady gains.

THE last spike in the Paducah and Memphis division of the Chesapeake, Ohio and Southwestern Railway was driven on the 13th inst., in the neighborhood of the Hatchie River, in Tennessee. Through trains between Louisville and Memphis will be running by the new route next week.

THE submarine cable between Martha's Vineyard and the main land, at Woods' Hole, was successfully laid by the Western Union Telegraph Company on the 12th inst. An electrical connection was made and a through circuit with Boston established, which works very satisfactorily.

THE Sacramento Record-Union says that work is progressing rapidly on the railroad extension to Orland, Colusa county. About half a mile of iron is laid daily. It is sixteen miles from Willows to Orland, and it is anticipated that the latter town will be in railroad connection in three or four weeks.

THE cable steamers Retriever and Silvertown have landed the shore ends of the cables on the coast of the Central American States, and were to have left Tehautepec on the 13th, laying the cable southward to Panama, thus completing telegraphic communication from Valparaiso northward.

THE New York, Pennsylvania and Ohio Railroad is still dumping cinder into Tamarac swamp, between Sharpsville and Clarksville, Mercer county. The work has been in progress for nearly six months, with no other apparent result than the disappearance of the cinder into the bowels of the hole.

ON the 1st of July trains passed over the great bridge at Canton Diablo on the Atlantic and Pacific Railroad. The grading is completed to a point 180 miles west of the bridge, and sufficient steel rails and ties are on the ground

to complete the road to the Great Colorado River. Six coal mines have been opened on the line of the road.

It is stated that the Rochester and Pittsburgh Railroad, consisting of 302 miles, and branches, will be completed by next fall, and that the necessary rolling-stock to equip the same has been already provided for. Friends of the road estimate that after paying all charges, something like a million and a half of dollars should be left to be distributed among stockholders as a dividend.

THE work of construction on the Canada-Atlantic Railway is rapidly progressing, and that portion of the line between Coteau Landing and Ottawa, a distance of 82 miles, will be completed before August 1. The track layers are within a few miles of Ottawa. The route of the line from Valleyfield on this side of the St. Lawrence, opposite Coteau Landing, has finally been decided upon and the locating survey commenced.

THE Montreal, Ottawa and Western Railway Company, the originators of the Quebec, Montreal, Ottawa and Occidental, have decided to seek powers to construct a line from St. Agatha, through the valley of the Red River by Lake Nominique, to tap the Gatineau Railway at La Desert, and the Canada Pacific Railway near Lake Tamiscomique. The company already own a charter for a road from St. Jerome to St. Agatha. Work will be commenced at once.

THE Montreal, Ottawa and Western Railway Company, which built the road from Montreal to Aylmer in 1875, commenced on the 7th inst. the work of continuing the road from St. Jerome to St. Agatha, thence following the valley of the Red River, to tap the Gatineau Railway at Desert, 100 miles from Ottawa, thence in the direction of Lake Temiscamingue, to join the Canadian Pacific Railway. The total length will be about 200 miles.

THE following branch lines of the Missouri Pacific system have been opened: Omaha line from Atchison to Union Pacific Junction, 145 miles; Lexington and Southern division from Cathage to Joplin, 173 miles; St. Louis, Iron Mountain and Southern from Kneble to Harrisburg, 58 miles; Missouri, Kansas and Texas line from Temple Junction, 38 miles, making an aggregate mileage of leased and operated lines of 5,248 miles.

THE Gulf, Colorado and Santa Fe Railroad is now completed to Fort Worth, Dallas and

Lampasas, and operates 484 miles of road. This is said to be the best built road in the southwest, being thoroughly ballasted with shell, gravel and stone, well equipped iron bridges, with stone abutments, station houses, tanks, etc., all new and substantially built; the company also owns the telegraph system along its line. This road runs through the best agricultural counties of Texas and constitutes the most direct route from the interior of the State to the coast.

The Chesapeake and Ohio Southwestern Railroad, recently known as the Memphis and Paducah, will complete their bridge over the Hatchie River and five miles of grading near Covington, Ky., shortly, and in a few days will run trains through from Memphis, Tenn., to Newport News, Va., via Dyersburg, Paducah and Cincinnati. This road was built from Memphis to Covington, Ky., (thirty-seven miles), ten years ago, expecting to go right through to Paducah, Ky., and it is only now that these hopes are about to be realized.

PERSONAL.

ROBERT GARRETT has been elected president of the Winchester and Strasburg Railroad Company.

MILTON H. SMITH has been elected first vice-president of the Louisville and Nashville Railroad Company, in the place of Gen. E. P. Alexander, resigned.

ROBERT GRAHAM has been appointed master of transportation on the sections of the Canadian Pacific Railway under construction, west of and including Flat Creek station.

W. I. BROKAW has been appointed master mechanic of the entire construction department, eastern division of the Northern Pacific Railroad, with offices at Forsythe, Montana.

JOSE F. DE NAVARRO has been elected a director of the Manhattan Railway Co., to succeed William R. Garrison, deceased. Resolutions eulogistic of Mr. Garrison were adopted by the board of directors.

At a meeting of the directors of the North Shore Railroad, at Montreal, on the 11th inst., Mr. Davis was appointed general manager, in succession to Mr. Senecal, resigned, and Mr. Blumhart was elected secretary.

ORGANIZATION.

The following gentlemen have been elected directors of the New York Loan and Improvement Company: Jose F. Navarro, George J. Forrest, A. M. Billings, A. V. Stout, Arthur Leary, John J. McCook, Fausto Mora, H. F. Dimock and Robert C. Livingston. The only new members of the board are Mr. Dimock, who takes the place of John Baird, now in Europe, and Mr. Livingston, who fills the vacancy caused by the death of William R. Garrison.

The Delaware and Chesapeake Railway Company has been reorganized by the election of Isaac Hinckley, Samuel M. Fenton, Henry M. Phillips, Edmund Smith, Wistar Jones, John P. Green, Samuel Wetherell, James B. Groome and David J. Cummins as directors; Isaac Hinckley, president, and T. N. Mills, superin-

tendent. All the officials are Philadelphia, Wilmington, and Baltimore and Pennsylvania railroad men. The Pennsylvania Railroad Company took possession on the 8th inst., and is now running the road with new locomotives and new cars.

Commerce of New York.

THE foreign imports at New York in the month of June were:—

	1880.	1881.	1882.
Ent. for cons.....	\$17,586,293	\$16,711,607	\$18,237,342
Do. for warehousing	12,898,188	9,438,021	10,130,068
Free goods.....	9,012,693	10,083,556	9,820,368
Specie and bullion..	1,015,230	344,986	229,813
Total ent. at port....	\$40,512,404	\$36,548,170	\$38,417,591
Withdrawn from warehouse.....	6,877,703	8,227,805	7,874,286

The foreign imports at New York for six months from January 1, were:—

	1880.	1881.	1882.
Ent. for cons.....	\$123,571,695	\$105,307,106	\$130,134,255
Do. warehouse....	66,537,461	46,943,971	53,749,305
Free goods.....	63,891,545	61,103,344	65,100,930
Specie and bullion..	4,615,560	29,734,935	1,950,705
Total ent. at port....	\$258,616,261	\$243,149,446	\$250,941,315
Withdrawn from warehouse.....	39,757,348	48,096,542	44,753,608

The foreign imports at New York for the fiscal year ending June 30 were:—

	1880.	1881.	1882.
Ent. for cons.....	\$214,822,744	\$206,990,018	\$250,216,791
Do. for warehousing	101,835,723	92,402,052	91,519,729
Free goods.....	124,827,664	124,108,420	133,241,192
Specie and bull'n..	83,358,731	100,329,471	28,239,063
Total ent. at port....	\$524,844,862	\$523,919,961	\$503,216,775
Withdrawn from warehouse.....	76,126,636	101,008,053	94,070,802

The description of imports at New York for the year ending June 30, were:—

	1880.	1881.	1882.
Dry goods.....	\$113,337,907	\$108,910,993	\$124,522,695
General mds.....	328,148,224	314,679,497	350,455,017
Sp. and bullion...	83,358,731	100,329,471	28,239,063
Total imports.....	\$524,844,862	\$523,919,961	\$503,216,775

Received for Customs at the Port of New York:—

	1880.	1881.	1882.
6 mos. ending			
Jan. 1.....	\$59,271,080	\$49,593,542	\$75,083,478
In Jan.....	11,960,677	10,572,559	13,387,515
In Feb.....	12,254,602	11,217,766	13,585,053
In March.....	14,469,557	13,122,964	13,999,138
In April.....	11,901,071	11,678,760	11,906,105
In May.....	9,752,873	11,055,935	11,981,893
In June.....	10,699,840	10,993,452	11,428,930
Total 12 mos \$130,309,604	\$138,234,681	\$151,372,114	\$176

The exports from New York to foreign ports for the month of June, were:—

	1880.	1881.	1882.
Dom. produce.....	\$41,325,315	\$29,171,452	\$26,583,883
For. free goods.....	388,670	472,281	391,654
Do. dutiable.....	355,768	713,891	437,563
Specie and bullion..	1,014,815	1,049,361	5,815,496
Total exports.....	\$43,084,568	\$31,406,985	\$33,228,596
Do. exclusive of specie.....	42,069,753	30,357,624	27,413,100

The exports from New York to foreign ports for six months from January 1, were:—

	1880.	1881.	1882.
Dom. produce.....	\$191,279,384	\$177,575,644	\$151,559,198
For. free goods....	1,448,803	5,041,894	2,661,828
Do. dutiable.....	2,255,290	3,381,973	3,497,285
Specie and bullion	4,720,871	6,352,782	35,911,606
Total exports.....	\$199,704,348	\$192,352,293	\$193,629,827
Do. exclusive of specie.....	194,983,477	185,999,511	157,718,221

The exports from New York to foreign ports for the fiscal year ending June 30, were:—

	1880.	1881.	1882.
Dom. produce....	\$386,064,796	\$393,252,144	\$332,463,298
For. free goods...	2,161,880	7,152,407	5,969,925
Do. dutiable....	4,517,387	6,434,310	6,421,857
Specie and bullion	8,053,937	11,002,183	42,182,655
Total exports.....	\$400,798,000	\$417,841,044	\$387,037,735
Do. exclusive of specie.....	392,744,063	406,828,861	344,855,080

Railway Postal Cars.

Five new railway post-office cars for the fast mail service on the Baltimore and Ohio Railroad, between Baltimore and St. Louis, are now being completed at the Mount Clare shops. The cars are built by the company upon designs furnished by the Government, and are unique specimens of their kind. The exterior of the cars is white, with ultra-marine blue borders and gold lettering. They are numbered from one to five, and are inscribed on the sides, "Baltimore—Fast Mail—St. Louis," and "United States Post-office." In the interior the cars are finished in ash and cherry, oiled to show the natural grain. The ceilings are white. The forward section is fitted with stalls for mail bags. The center is taken up with a series of eighty inclined shutles for distributing newspapers. The matter for distribution is placed upon a long table in front of the shutles, each of which is numbered and labeled. When distributed it slides through by gravitation and falls into the pouches on the other side. In the rear section there are five hundred boxes of uniform size, arranged in a semi-circle for distributing letters. Each of the cars is lighted by ten polished brass Argand lamps and heated by Baker car-heaters. The carriages and under-gear are painted black and light brown. Loughridge air-brakes are attached to each car. The five will soon be finished, when three more will be commenced for service between Baltimore and Chicago. The white and blue coats of the cars have a very pleasing effect in their new state, but railroad men think the color will not remain so bright after a short season on the road.—*Baltimore Sun.*

Fast Time.

Several passengers on the Philadelphia express on the Central Railroad of New Jersey, leaving Bound Brook at 8.50 A. M., Wednesday, July 12, finding that quick time was being made, took the time for five successive miles, showing the speed to be as follows: 1st mile, 52 seconds; 2d mile, 49 seconds; 3d mile, 47 seconds; 4th mile, 46 seconds; 5th mile, 45 seconds—an average of 47.8 seconds to the mile. William Aten was the engineer, and Henry A. Craig the fireman. The engine was No. 169, which had already acquired a reputation for speed.

According to Mr. S. W. Robinson, the life of railroad plant is not great. New roads with iron rails and wooden structures will need renewals for the most part within ten years. Ties will rot out in from five to eight years. Rails endure according to traffic, and, for light work, will last ten years. Good wooden bridges when new will be dangerous in ten years unless covered, and if there is any intention to cover them the roofing should be completed within two years or the timber will become affected with "dry rot." A wooden bridge nicely covered and painted may appear to be in the best of condition, but really be in the very worst. Joints in the lower chord of such bridges are seen to be pulling out by the locks splitting off.

Operations of the Railroads of the United States for 1881.

Advance sheets of the forthcoming volume of Poor's "Railroad Manual of the United States" have been issued. The year 1881 was one of extraordinary activity in railroad affairs. Within the year 9,358 miles of railroad were built. The greatest mileage for any previous year was 7,379 miles, in 1871. The cost, at \$25,000 per mile, of the lines constructed during the year was \$233,750,000. In addition, at least \$75,000,000 was expended on lines in progress and \$100,000,000 in improving their tracks, in building new stations, and in adding to their equipments. The total amount expended in construction during the past year was, in round numbers, \$400,000,000. Up to the 1st of June, 1882, 3,677 miles of line were opened, against 1,734 for the same period in 1881. The same rate of increase will not be maintained for the remainder of the year, but the aggregate of new mileage is not likely to be much short of 10,000. It is certain, says the Manual, that for a long time to come a much greater extent of mileage will be constructed annually than was constructed in the past or than will be constructed in the present year. The earnings of all the roads in operation the past year equaled \$725,325,119, being an increase over the previous year of \$110,000,000—the rate of increase being very nearly 16 per cent. The earnings equaled \$13.60 per head of our population. Their net earnings were \$276,654,119, an increase of \$21,500,000 over those for 1880. Their current expenses were \$449,565,071. The amount of interest paid during the year on their funded debt was \$128,887,092; the amount paid in dividends was \$93,344,200, against \$77,115,411 for 1880. The cost of operating our railroads for the year was \$449,565,071, or 62 per cent of their gross earnings. The total amount expended in the construction of new lines and in operating and improving the old ones was over \$750,000,000—the greater part of this vast sum being paid in wages. The number of persons employed in operating them the past year averaged fully 12 to the mile of operated line, or 1,200,000 in all. The number employed in the construction of our railroads equaled 400,000, increasing the total number of employes to 1,600,000, or about one thirty-second part of our population, estimated at 53,200,000.

The tonnage transported on all the railroads in the country in 1881 cannot have been less than 3,500 tons to the mile, or 350,000,000 tons in the whole. The exact amount cannot be given from the want of returns from a large number of companies. The tonnage transported by the railroads making return to the Legislature of Pennsylvania in 1881, and having a mileage of 19,244 miles, equaled 132,410,302 tons; the average being nearly 7,000 tons to the mile, the average for the whole country may be estimated at one-half the average for that State.

The number of tons transported the past year by the Boston and Albany, 371 miles, was 3,593,923 tons; by the New York Central and Hudson River, 993 miles, 11,591,379 tons; by the New York, Lake Erie and Western, 988

miles, 11,086,823 tons; by the Pennsylvania, 1,173 miles, 18,229,365 tons; by the Philadelphia and Reading, 846 miles, 16,841,807 tons; by the Lake Shore and Michigan Southern, 1,177 miles, 9,164,508 tons; by the Chicago, Burlington and Quincy, 2,771 miles, 6,710,750 tons; and by the Chicago and Northwestern, 2,644 miles, 6,662,112 tons. The total mileage of the above roads was 10,963 miles. Their total tonnage was 83,880,613 tons, the average being about 8,000 tons to the mile.

At an assumed value of \$50 per ton, the value of the tonnage moved on all the railroads of the United States the past year, less one-third for duplication, was, say, \$12,000,000,000, or more than \$200 per head of our whole population.

Thirty years ago the tonnage of all the railroads in the United States did not equal one-half that of the Erie or New York Central railroads at present, nor one-sixteenth that of the total now moved. The value of the tonnage of 1851, at \$50 per ton, did not exceed \$250,000,000, or only \$10 per head of population, against a value of \$12,000,000,000, or more than \$200 per head, in 1881.

A number of carefully tabulated statements are given to show the good effects of railroads upon the agricultural development of the West in new States and Territories, as well as upon the imports and exports of the entire country. An increase of exports in 10 years is shown to the amount of \$447,000,000, of which \$330,000,000 is said to have been made up of the products of the Western States, these being almost wholly due to the construction of railroads within them.

Endeavoring to show the "utter groundlessness" of the charges of monopoly made against railroad companies, statistics are given making comparisons between the freight rates of 1881 and those of 30 years ago. The New York Central and Hudson River Railroad's operations are quoted: "In 1855, immediately after its consolidation, this road moved 670,073 tons of freight at a charge of \$3,758,320, and at a cost of \$1,539,912, the net being \$2,218,408. The tons moved one mile equaled 114,827,793; the charge was 3.270 cents; the cost, 1.341 cent; the net, 1.929 cent per ton per mile. In 1881 the same road moved 11,591,379 tons of freight at a charge of \$20,736,750, and at a cost of \$14,913,213, the net being \$5,823,537. The number of tons moved one mile equaled 2,646,814,098; the charge was .780 cent; the cost, .562 cent; the net, .218 cent per ton per mile. The increase in tons moved on this road from 1855 to 1881 was 10,921,306, the rate of increase being, in round numbers, 1.700 per cent. The increase in service performed—tons moved one mile—was 2,531,986,818 tons, the rate of increase equalling 2.200 per cent. The earnings from freight increased at the rate of 480 per cent, such rate equaling only one-fourth that of service performed. The cost of movement per ton per mile was only about one-third that for 1855, while the net per ton per mile equaled only about one-ninth that for 1855. Had the rates charged in 1881 equaled those of 1855 the gross earnings from freight the past year would have been \$86,450,817, in the place of \$20,736,749, the amount actually received. Had the

same net rate been maintained, the total net for 1881 would have been \$52,875,036, in place of \$5,823,537, the amount actually received. Charges have been reduced to rates that were believed to be impossible a few years ago. In 1872 it cost the New York Central 1.129 cent to move a ton of freight one mile. In 1881 it received only .783 cent for a similar service. In its reduction of charges the Central Railroad only represents the entire system of the country. The New York, Lake Erie and Western Railroad, in 1855, moved 842,055 tons of freight at a charge of 2.424 cents, and at a cost of 1.155 cent per ton per mile. In 1881 it moved 11,086,823 tons at a charge of .805 cent, and at a cost of .529 cent per ton per mile. Had it charged as much per mile in 1881 as it did in 1855, its receipts from freight would have been \$47,101,811, in place of \$5,473,313, the amount actually received. The Pennsylvania Railroad moved, in 1855, 365,006 tons of freight at a charge of 2.746 cents, and at a cost of 1.662 cent per ton per mile. In 1881 it moved 18,229,365 tons at a charge of .799 cent, and at a cost of .437 cent per ton per mile. Had it charged the same rates in 1881 that it did in 1855 its receipts for the past year would have been \$73,195,832, in place of \$10,801,089, the amount actually received. The charge in 1881 was .87 cent less than the cost of movement in 1872. The result of reduced charges is seen in the enormous increase of freight and of income—quantity making up for reduced rate of profits."

A SEVEN hundred dollar electrical clock has been placed in the Mason Machine Works at Taunton, Mass., for the better regulation of the watchmen.

On the 23d of May last there was issued to M. H. Landers, of San Francisco, Cal., a patent on an attachment to railway cars, whether street cars in cities or steam cars traveling over the country at rapid speed, designed to prevent a person getting under the wheels who may have slipped while trying to jump on or off, and any part of his body or limbs having fallen across the track in front of the wheel of a moving car. It is somewhat of a plow-shaped device and envelopes the larger part of the wheel. It is made of stout plates of sheet-iron hung from the axle-boxes with a plow-shaped surface in front of the tread of the wheel. When an obstacle is in the way it falls automatically down to and slides along the surface of the rail, thereby shutting out and casting aside what would otherwise be certain to pass under the wheel of the car. This accomplished, it is raised to its original position above the track (usually about an inch) by means of springs for the purpose, and is ready for the next emergency. It is simple and of few parts. It can be quickly adjusted or removed, and the expense will be quite moderate. It is to be painted and ornamented to correspond with the rest of the car. This novel device has been tested by the inventor on a full sized car, and has, it is asserted, accomplished all that is claimed for it, and is an improvement that railway people in general and the public in particular will be glad to hear of and see in active operation as a preserver of life and limb from railway accidents.

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GROWTH OF AMERICAN RAILROADS.

MR. HENRY V. POOR again presents his annual summing up of the doings and growth of the railroads of the North American Continent, and of the United States in particular, from which it appears that there were at the close of the year 1881 104,813 miles of railroad in operation in this country, of which 9,358 miles had been added during the year, or in round numbers nearly ten per cent increase. It is hardly likely that this ratio of increase can be kept up steadily; but it is quite possible that the current year may see more than 10,000 miles of new road constructed. There are, it is safe to say, more than 20,000 miles in actual progress, and a rough estimate of the amount under survey, or for which the promoters are endeavoring to secure donations, or borrow money, would be fully double the latter figure. In fact the limit of growth of railroads is found in the ability to borrow money for the purpose.

A great part of all the money raised for railroad building is done in New York, which is the money market for this country. Canada draws upon London mainly; and Mexico and Central America have hitherto done so; but some American capital is now finding its way there, with a prospect of more and more from both sources.

Is there evidence that railroad expansion is being overdone? Yes;—and no! In places where the rage for building parallel roads for competing purposes (as, for instance, between New York and Buffalo), there may be danger of much money being sunk without immediate returns; the same may perhaps be said of the numerous competing lines between Chicago and the Missouri River points all the way from Omaha to Kansas City. On the other hand, it remains to be discovered on how little traffic a railroad can subsist. There is no considerable instance, in this country at least, of a railroad line which would not pay its current expenses; and only one case occurs where the owners have deliberately taken up the rails and abandoned the franchise—and that was the Mercer and Somerset Railroad in New Jersey, which, being paralleled by the Bound Brook Railroad, became unprofitable to operate by the Pennsylvania Railroad Company. There may have been other causes at work, however. If a railroad will pay the expenses of operation and repairs, there is hope that, with the general improvement of the country, the incoming of population, and the growth of industry, it may after a while pay fixed charges also, and its stock then have a positive value. It must be a very poorly located road, and very poorly managed, that cannot be so run as to pay operating expenses, and there are few or none such in Mr. Poor's list.

Truly enough there are some conspicuous examples of roads that fail to pay expenses and fixed charges for a series of years even without returning anything to the stockholders; but this by no means proves that railroads are too many or too dense. Take the cases of the New York, Erie and Western, the New York, Pennsylvania and Ohio, and the Grand Trunk as examples; the failure may arise from bad, that is to say, wasteful, management; from too great burden of interest or rentals, and from faulty original location. It happens that the bulk of the capital employed in each of these mentioned lines was English; and although that nation prides itself on the superior sagacity and honesty of its corporate management, the experience in American roads is unfortunate, in spots. The much renowned English engineer Brunell built three famous works, the Thames Tunnel, the Great Western Broad-

Gauge Railway, and the Great Eastern steamship, each of which were conspicuous elephants on the hands of their shareholders. The Grand Trunk Railway proved another; and we shall be much mistaken if the Canadian Pacific does not fall into the same category.

It is needless now to go over again the history and causes of the Erie and Atlantic and Great Western failures. They betray the weak points of corporate organization; a recklessness with the funds and credit of stockholders which could not happen with private means. This experience is not without its lesson; and the future of railroad management will profit by the mistakes of the past. There is as little danger that we shall have too many railroads as too many telegraphs (both land and submarine), or too many houses or ships. Greater competition will insure greater care and economy, and the public will derive the benefit in better service, if the dividends are not too great. A railroad is a perpetually improving possession.

The present temper of the money market gives no indication of a check at present to railroad-building. The new roads give stimulus to so many other industries that a season of railroad-building is one of great activity and profit to all other branches; and the general result, of course, is to cheapen the cost of production and transportation to the consumers. The exportable crops are mainly assured, and no black clouds, further than the labor disturbances, threaten to interfere with the general prosperity. That part of the national revenues, which in all other countries is devoted to maintaining fleets and armies, is here put into internal improvements of a permanent character, with infinite advantage to the common weal. It would be difficult to contrive any more beneficent, or on the whole more remunerative, investment of the same amount than in our expanding railroad system. As Mr. Poor well says: "Here the railroad takes the place of the common road, and the 40,000 locomotives do the work of more than 4,000,000 horses; and costly as they are to us, are still cheaper than the animal power and harness and stabling demanded in other countries, even if we had the dirt roads made for us gratis."

ELECTRIC lighting from towers is apparently becoming very popular in this country. It is very effective, but it is not without a most serious drawback. In time of riot or any great public excitement it is quite possible, when the sources of light by night are concentrated, for those bent on pillage to cut the wires and pursue their evil deeds, practically with impunity, under cover of the sudden darkness.

New Route from Boston to Saratoga Springs.

YESTERDAY was a notable day in the history of Saratoga Springs, since it marked the opening for regular traffic of a new outlet to the rest of the country independent of the monopoly which the Delaware and Hudson Canal Company have so long enjoyed of the large summer business of Saratoga. The section of railway utilized for the first time yesterday extends from Saratoga Lake some twelve miles to the main line of the Boston, Hoosac Tunnel and Western Railway, where it crosses the Hudson River at Mechanicsville, and in connection with the short line of railway opened between the lake and Saratoga Springs last summer, which completes the line, owes its existence to the fact that it forms one of the connections which the late Gen. Burt planned and executed in connection with the comprehensive scheme which he was developing at the time of his decease.

The Saratoga connection was doubtless the outgrowth of the want of an accommodating spirit shown by the management of the Delaware and Hudson Canal Company to General Burt in his efforts to improve the service between the New England States and Saratoga Springs. An example of this want of accommodation was shown no later than last Monday morning, when a train with some twenty-five passengers for Saratoga arrived from the east at Mechanicsville, just as the train of the Delaware and Hudson Company was leaving, and which no inducements could prevail upon to delay a few minutes to receive the eastern passengers, who were forced to wait until the afternoon. Happily there is now open a route extending from North Adams direct to Saratoga Springs under one general management, which offers to nearly all the roads of New England a desirable connection with America's peerless summer resort.

At present there is considerable work being done. Not only upon the portion so recently opened for business, but in the direction of a double track upon the main line of the Boston, Hoosac Tunnel and Western, the Commonwealth's Railroad, and the Fitchburg, large gangs of men, etc., are busily at work. With these improvements completed it is contemplated to reduce the running time between Boston and Saratoga to only six hours, and as the distance but slightly exceeds two hundred miles but little difficulty should be experienced in reducing the time to the figure given.—*Boston Journal*, July 6.

Utilizing Coal Slack.

A SERIES of interesting experiments were made in the presence of a number of coal-dealers of the city in the yard of J. V. Nicolai, yesterday morning, explanatory of an English process for the utilization of slack or small coal. The experiments were given under the supervision of the inventor, Mr. W. H. Cory, of Cardiff, Wales, where the process has been in successful operation since 1873. Thousands upon thousands of tons of coal slack and dust go to waste year after year, and the invention is calculated to stay this waste, and at a cost of

manufacture of but fifty cents a ton. The process is as simple as it can be, and consists of mixing the slack or dust coal with fire clay and silicate of soda (for bituminous coal 2 per cent of clay and 3 per cent of silicate), and subjecting the block to a pressure of one ton to the square inch of the block surface. The block thus formed is as hard as ordinary coal, and has all its angles rounded to prevent chipping, the surface being glazed by the manner in which the pressure is delivered, the press manufacturing 240 tons in twenty hours. The blocks require twenty-four hours to become hard and fit for use, as during that time the chemical action takes place, the clay converting the silicate of soda into silicate of alumina, thus turning a soluble into an insoluble, or, in other words, vitrifying the block and causing it to be weather-proof. Yesterday's test was made upon a hand-press, and consequently the pressure was but an iota of what the machine gives. After a cake of the slack had been "turned out" the party adjourned to an adjacent mill and there burned several of the bricks. The tests were watched by the coal men with interest, and it is more than probable that in the near future Cincinnati will have works of the kind.—*Cincinnati Engineer*, July 8.

The Sleeping-Car Companies.

In a recent conversation in relation to the present status of the sleeping-car companies, Geo. M. Pullman, president of the Pullman Palace Car Company, is reported to have said:

"There are three such companies in the United States. The Pullman Company has 900 cars, the Wagner Company or Vanderbilt has 250 cars, and the Woodruff Company has about 70. The latter company runs on the Cleveland, Columbus, Cincinnati and Indianapolis Railroad, on the Coney Island route and to certain other points. The Pullman Company was formed in 1867, though I had been operating sleeping-cars as a private matter since 1859. The original proprietors of the Pullman Company were myself, the Chicago, Burlington and Quincy Railroad and the Michigan Central Railroad. I never had any rich men behind me. The Wagner Company was backed by Vanderbilt from the beginning, and is rather a partnership than a corporation. Its stock is not for sale in the public exchanges like that of the Pullman Company. The capital stock of the Wagner Company, with 250 cars, is \$5,000,000. When they have any stock trades among themselves they sell the stock for \$150, making their cars stand at about \$30,000 apiece. While they have built some pretty good cars more recently, I do not suppose their cars would average over \$5,000 apiece if brought to a forced sale. The Pullman Company, with four large manufacturing, with the town of Pullman, and 900 cars, is capitalized at \$12,000,000. It has never missed paying a dividend—paid 12 per cent per annum for seven years, and has paid 8 per cent ever since. We put its cars in at about \$13,000 apiece.

"Mr. Vanderbilt has always favored the Wagner Company, which is something of a family matter. With the exception of his own family, the only considerable stockholders in it, I understand, are William L. Scott of Erie, Augustus Schell and the Wagner family.

"We give the railroads the privilege of own-

ing one-quarter, one-half or three-quarters of the Pullman equipment on their road. When I began this company it was after very careful study, and I saw that the sleeping-cars would not be permanent unless they dealt equitably with the railroads and with the public. It is not the mere cars which make the success of such corporations, but the underlying system of their operation being uniform at every point. We have built up a service in men as well as in cars, which it will take many a year of careful method to rival. While we believe that the railroads ought to become owners, at least in part, of the sleeping-cars which run over them, so as to give their stockholders an interest in the profits, we know that the improvement of the car service in comforts, convenience, hotel cars, porters and conductors can best be carried out by such an organization as we now have. The ordinary railroad cars have been improved upon our models; but we have labored to set the model, and have incidentally improved the entire transportation service of the country. I was in southern Italy a few weeks ago, when I saw the Pullman cars pass me, bound from the Alps to the extreme tip of Italy. With the service we are to put in in the north of France, there is at present a Pullman equipment from the Mediterranean Sea to the Straits of Dover, and thence to Liverpool and Edinburgh, and on this side of the ocean from Halifax in Nova Scotia, to California, Florida and Galveston. Such are the dimensions of a little bantling brought into life in 1867. The Pullman Company have become perhaps the largest builders of railroad cars in general in the world."

Naturalized by His Mother's Marriage.

MR. JUSTICE HARLAN, of the Supreme Court, made recently a decision of some interest to the children of foreign-born parents. John P. Kellar was indicted in the Federal Court at Springfield for having voted, when not entitled to vote, at an election for Representatives in Congress held in 1880 in the township of East Lincoln, Logan county. The facts of the case as they appeared on the trial were these: Kellar's parents were subjects of Prussia, where his father died, in 1865, at which time the son was only 7 years of age. His mother came to the United States, bringing the boy with her, and in 1868 married Michael Gaschka, who was a naturalized citizen of the United States. It was decided that the mother upon marriage with Gaschka became, *ipso facto*, a citizen of the United States as fully as if she had been herself naturalized, and that the son being a minor and dwelling in this country when his mother married became by virtue of her marriage with a naturalized citizen himself a citizen. The contention of the Government was that the son could not vote except by complying with section 2,167 of the Revised Statutes of the United States relating to naturalization. This view was, however, overruled by the Justice upon the ground that that section has no application to the case of a resident foreign-born minor who became a citizen by force of his mother's marriage to a citizen. Kellar was therefore discharged honorably from imprisonment.—*Chicago Herald*.

[From our Special Correspondent.]

OUR ST. LOUIS LETTER.

In which things Political, Social and Otherwise, are briefly referred to.

ST. LOUIS, JULY 8th.—Occasionally, perhaps, it is not amiss, even for the RAILROAD JOURNAL, to step aside from the ordinary record of events and chronicle some of those passing occurrences which mark the happenings of the time and agitate to an unusual extent the minds of the people of a great State. Perhaps there never yet, in the history of Missouri, was a question more close to the hearts of the great majority of our citizens than the movement set on foot here some months since for the suppression of gambling. The press and the pulpit united for once in its overthrow, and so universal was the theme in the columns of the one and the sermons of the other that public opinion grappled with the vice, and the greatest and most learned of our representative men lent their influence and raised their voices for its permanent suppression. It was high time, too, to strangle the monster, for golden were the harvests the festive "fakirs" reaped in this city of churches. Indeed, so successful had this species of "enterprise" become that certain keno houses in St. Louis netted for more than a year past a profit of \$1,000 a day each from the victims of their guile, and many an unpretending but happy home was wrecked by the losses sustained in the inglorious pastime of "bucking the tiger." When excitement was at its highest pitch, and when all eyes turned toward our law-makers at the capital for redress, ex-Governor Chas. P. Johnson, our great criminal lawyer, allowed his name to be placed in nomination for the Legislature, was elected, and while that body was in session succeeded in passing a measure for the suppression of gambling, which has since become famous as the "Johnson law." Under that act several hundred indictments were found against our local "sports," who contested the constitutionality of the law before the Supreme Court, and were defeated. Finding themselves effectually cornered the gamblers closed their doors, and when their trials came up a few days since the leaders of the gang (Pate, Manning, and others) all escaped the penitentiary by pleading and suing for mercy. The court sentenced them to six months imprisonment, and the public was satisfied in the vindication of the law. In fact, the city was all exultation at the triumph, but a great change came over the spirit of their gladness when, two days later, the mandate of Governor Crittenden made them all free men again. The indignation created by this act of the Governor defies description and puts the keenest observer to his wits' ends for a tittle of justification. Defiant and insolent, the gamblers preyed upon the community with reckless and unscrupulous persistence. They scorned police interference, they ridiculed the exhortations of the church, they frowned at public opinion. It was only when the last resort failed that they yielded; it was not until the State was out several thousand dollars in legal costs that they acknowledged submission; it was not until all possible

means of escape had been tried that they plead guilty. When they had thus harassed the courts, and when they had grown rich by plundering the people—when the law had been timidly asserted and their wrong-doing mildly punished—Governor Crittenden comes forward with his pardon, and upsets the labor of many months, wantonly cheats the jail of its just deserts, and outrages public feeling to such a degree as to make himself the most unpopular and thoroughly despised man in all Missouri to-day. His conduct is the burden of countless newspaper articles—it is the subject of numerous pulpit addresses—it is the all-absorbing topic of the masses.

Poor, weak Crittenden! by one act he blights the aspirations of his life—by one dash of the pen he has buried himself and his hopes in a political grave! The most abused man in Missouri, at this writing, the picture of a seat in the Senate has now forever "gone from his gaze," and it would take a galvanic battery of forty-horse power to wake up a single representative man in the State to speak a word in his praise.

By this time he must certainly have realized the great mistake he has made, but it would seem he is only in the beginning of his trouble; for as there are hundreds of gambling cases yet to be tried, the question that concerns St. Louis now is whether or not, in case of conviction, he will have the grit to issue pardons in the other cases also. If he dare do so there will rise from out Missouri a howl of indignation which will ring all over the land; and if he neglects or declines doing so he must necessarily stultify himself and displease the faction for whose political influence he has already sacrificed so much.

To complicate matters still more, three of the most respected Police Commissioners St. Louis has ever had (Messrs. Cupples, Maxom and Simmons) sent their resignations by special messenger to Jefferson City the day following the Governor's pardon, which they openly declare an "unparalleled outrage on decency and law." Their successors are Messrs. D. Kerwin, F. X. McCabe and J. F. Caruth, and it remains to be seen whether their conduct as commissioners will help the Governor out of the dilemma in which he placed himself or still the denunciations which go forth from a hundred thousand tongues to the disparagement of our chief magistrate.

Keno and faro, however, are for the time-being dead—indeed, the only gambling that flourishes at the present time in our city is that which is clothed in Board of Trade speculations.

Mr. John W. Masse, who has been for some time past General Passenger Agent of the Atlantic and Pacific Railroad Company at Albuquerque, N. M., has been appointed to the same position by the Louisville and Nashville, and Louisville, Evansville and St. Louis Railroad companies, with headquarters in St. Louis. Mr. Masse is well and favorably known in this city, and his appointment gives great satisfaction to all parties having dealings with the roads over which he has control. He formerly occupied a similar position here, and the regret caused by his departure some months since is

counterbalanced by the pleasure the public now feel at his return. He is the right man in the right place, and his selection for the post mentioned is certainly a judicious move on the part of the companies he represents.

The Missouri Pacific Railroad opened on the 2d inst. a new line from St. Louis to Omaha, and will hereafter run two trains daily to that city. Simultaneous with this move comes the announcement by the same company of a fast express train from this city to San Francisco—time, four and a-half days. The present time between St. Louis and the Golden Gate is five and a-half days, and trains go via Omaha. The fast train goes via Denver and Cheyenne, thus making a difference in time of 24 hours. Under this arrangement passengers from Chicago can make the trip (by way of St. Louis) to the Pacific seaboard in 12 hours less time than formerly, and at the same time can enjoy the privilege of going by way of Denver. Business people hail this announcement with pleasure, inasmuch as the fast train means fast mails.

Mr. T. E. Cassidy, general freight agent St. Louis and San Francisco Railroad, has just resumed his post after a protracted visit after health at Hot Springs, Ark.

All the roads doing business in St. Louis report an unusually large summer trade.

Messrs. H. C. Townsend and Francis Chandler, general passenger agents of the Wabash and Missouri Pacific railroads, respectively, have been in Chicago for several days past at a meeting of general passenger agents interested in Chicago, Kansas City and St. Louis business.

Mr. W. H. Abrams, land commissioner of the Texas and Pacific Railroad Company and Mr. J. P. Herman, of Fort Worth, attorney for the Southwestern Railroad Construction and Improvement Company, have been in the city for the past few days.

Mr. F. A. Wann, assistant general freight agent Chicago and Alton Railroad Company, has been in attendance at Detroit for the past few days at the regular monthly freight line meeting of Eastern roads.

Could the several railroads doing business and centering in East St. Louis not introduce some reform and improvement by which the fatal accidents occurring there almost daily might be prevented?

It is estimated that blackmailing to the extent of \$50,000 a year is levied in St. Louis.

There is a great exodus of fashionables from this city to the Northern and Eastern watering places.

The "Fourth" was celebrated in St. Louis with unusual eclat.

P. H. T.

BENJAMIN P. CHENEY, of Boston, is the gentleman who offers the statue of Webster for the State House park in Concord, N. H.

THE third wharf built within a year at Newport News by the Chesapeake and Ohio Railroad Company is nearly finished. The Old Dominion Steamship Company will use it, beginning soon a daily line of fast steamers between New York and Newport News. The Old Dominion Land Company, which owns the site of Newport News, has 5,000 acres of land in Newtown proper, and 2,000 acres adjoining. It is pushing improvements on the property, but the demand for dwellings and buildings for business exceeds the supply.

[From our Special Correspondent.]

OUR BOSTON LETTER.

Being a Review of Events.

THE GLOBE COMPANY.

THE above concern, which has been a "concern of sorrow and acquainted with griefs," has fallen into so much more grief that anyone with a large heart (for the stockholders) would not forbear mentioning it. About two or three years ago a company was organized. It was called the Globe Company (presumably because its influence was to extend all over the globe), and it was to rebuild old locomotives so that they would burn smoke, screenings, black dirt, and in fact most anything but coal. Great things were promised; one locomotive was so equipped and was said to have been a success. On this, capital stock was issued, a president, vice-president, general manager, and the usual proportion of high-salaried officers chosen; and the papers were filled with advertisements of what the Globe Company was going to do, and that its stock was going fast, and those few shares which were left might be taken by some persons, prompt to show up, at the nominal price of \$10 per share, just to close out, you know. When they had done about \$25 or so worth of work for some road, they began to pay 10 per cent dividends per month. Desiring to "keep things moving," it has been said that as fast as grangers furnished money for stock, it was paid out to other grangers in dividends.

The company flourished. For two years it gave annual dinners to the stockholders, at which speeches were made, telling what the concern was going to do and about its great future. At the last one, as some of the voters displayed more curiosity to know what had been done with their money than was consistent with the officers' ideas of politeness, it somewhat abruptly broke up, angry feelings not being conducive to digestion. With large wisdom, a tract of land in Chelsea was selected and works put up at a cost of many thousand dollars; these were to be surmounted by a huge globe, that all the world might know how large its plans were. It has since come out that a clear title to the land has never been obtained.

A while ago numerous suits were brought against it by other concerns for infringement of their patents, as it seems that most all of the Globe Company's ideas on the subject of locomotives were borrowed ones, and very few original. Recriminations and publicity followed, and threats were made against Mr. Binney, the general manager, but he kept a bold front, and intimated that the company would yet change locomotives by the thousand; and the squall (as far as the public knew) blew over until within a few days, when sundry and amusing developments have come out which are worth mentioning. The 10 per cent dividends were stopped when the first trouble came, claims to the extent of \$150,000 having been presented.

Now it seems that their former manager, having been frozen out by a recent deal made by a new stockholder, has taken up the sword for the Economic Fuel Company, who feel that they have been damaged \$200,000 worth by the

use of their patents by the Globe Company. Why they can claim this nobody knows, as the Globe Company never used anyone's patents very much.

Some time ago, a \$50,000 mortgage was taken out on the company's new buildings, in the name of Fred. Guild, on consideration that 25,000 shares of the stock should be turned over to him, which was done. The new controlling interest then proceeded to call a meeting and vote to organize a new concern, and to sell the works as they stood to the Chelsea Manufacturing Company, which was done, freezing out the old officers, company and stockholders. Then the attachments began to pour in, and the building is now loaded with them to the extent of some \$350,000.

About the 6th or 7th inst., Deputy Sheriff O'Brien called to levy a new attachment of \$1,000 and found the building fortified. A voice from within warned him to keep off, saying that armed men guarded the doors, who were assisted by blood-hounds, and that torpedoes and spring guns commanded every entrance, and whoever entered would do so at the peril of resembling a cullender before he got far. Upon this the officer called upon them in the name of the law to open the doors, but as they evidently had not much respect for the law, they did not budge. Thereupon the sheriff, by a series of feints and strategies, succeeded in climbing through a window, there not being men and blood-hounds enough to go round, and served his writ with a whole skin. It is not known whether the deputy sent them an ultimatum or not, but it is sufficient to know that the allied powers of the sheriff and a ladder gained an entrance without bloodshed up to date, although the place was defended as described. It is rumored that hostile movements are being made in the interior, but as communication is broken nothing definite could be obtained. Thus is another great enterprise at a standstill.

Since my last the New York and Boston Inland Railroad has obtained a location to enter the city upon, as far as the West Roxbury station of the Boston and Providence Railroad. Now they want the Boston and Providence people and the Railroad Commissioners to agree to let them use the Providence tracks and terminals the rest of the way.

The Lynn and Boston Horse Railroad carried on the 4th of July 20,000 passengers in the limits of Lynn alone. The Boston and Lowell Railroad, at a place called Milk Row, piled up 21 cars loaded with ice one day last week by reason of a broken axle, stopping travel for several hours. It was said by all who witnessed it to be as "cool" a proceeding as they had ever seen.

A little trouble has arisen over the proposed sale of the Woonsocket division of the New York and New England to the Boston and Albany, to be used in the Newton Circuit Railway, as it is not at present certain that the former road can give a clear title on account of the mortgages upon it.

The reports for the month of June show a falling off of 1,095 loaded freight cars as compared to the number that passed through the Hoosac Tunnel in June of last year.

At the Point of Pines, a harbor resort, 10,000 people gathered on the evening of the 4th. It took 85 trains to handle the passengers who

visited this place during the day and evening. The Boston, Revere Beach and Lynn and the Eastern both run there. The Eastern built their loop tracks to this place last season at a cost of a little over \$30,000, and counted at the end of it an increased income from its use of \$15,000.

The consolidation of the Eastern and Boston and Maine railroads is progressing. The directors of both roads have actually made propositions to each other, but as yet the arrangement is not satisfactory to either. After their consent comes that of the Legislatures of Massachusetts, New Hampshire and Maine to be gotten, which is no small undertaking.

Some of the good people of Boston are doing a work that might well be followed by those of New York and other large cities, viz.: The city is divided into nine districts, and each week through July and August the poor children of a district are given a free ride to Lake Walden Grove, on the Fitchburg Railroad, and a day in the woods. As policemen are the only objects on earth they have any respect for a squad is detailed each week to go with them. Last week 16 car loads went out, and the cost to the people who sent them was but 34 cents per head, including a lunch. The JOURNAL man saw the train arrive at night, and it is not possible for people to be happier than were these children as they got out of the cars with their arms full of green boughs and flowers. All the train men and passengers in the station dropped everything and went to look at them.

At 10 o'clock on the morning of the 11th the Railroad Commissioners studied the milky way (train), i. e., the transportation of the lacteal fluid on the trains entering the city. The result at time of writing is not public.

Travel on the glorious Fourth: Fitchburg Railroad at Lake Walden, 10,000 people; New York and New England at Highland Lake Grove, 10,000; Boston and Hingham Harbor boats carried 15,000 people.

The Massachusetts Central directors met again on the 8th and considered the idea of changing the present mortgage bonds into preferred stock, and one or two other schemes, but could not come to a decision as to which was the best course to pursue. It has been found to be impossible to raise the \$150,000 to keep the road alive and build it to Ware, whence it was hoped to make it at least pay running expenses. As it is now, the time is near at hand when the road must cease running unless something is done quickly.

The New York and New England earned \$58,000 more in June of this year than in the same month of last. Its Harlem transfer in the same month brought 511 less cars to it. The Newburgh division, with its enormous coal trade, has done much to increase the earnings.

The Boston and Providence Railroad is about to put an automatic train starter into its passenger depot in this city. The next thing wanted is an automatic conductor and ticket taker.

The amount of brains displayed by the average person when he travels is not usually as heavy as his traveling bags. The other morning the writer was standing in the depot of a road whose connections cover a goodly portion of Vermont. It was near starting time, and the only train in the station had Central Vermont cars, labeled in large letters, attached. Down the platform came a stout individual, loaded down with the customary grip sack, bundle, cane and umbrella. As he got to the side of the cars he began to shout, "Where's the cars for Rutland; I want the cars for Rutland," and thus he kept on, past the train, locomotive and all, and was headed for Somerville, when an official caught him by the shoulder and pointed to the cars he had just passed. At this the stout party turned and seemed to realize for the first time that he had passed a train. When last seen the ends of the cane and umbrella, followed by the official, were vanishing in the car door.

"CURTIS."

BOSTON, JULY 11th, 1882.

THE STOCK EXCHANGES AND MONEY MARKET.

New York Stock Exchange.

Closing Prices for the week ending July 12.

Th. 6. F. 7. Sat. 8. M. 10. Tu. 11. W. 12.

Adams Express.....	139	140				
Albany and Susq.....						
1st mortgage.....						
2d mortgage.....						
American Express.....	92½	93	92	93	94	94
Burl. C. R. & Nor.....						
1st mortgage.....						
2d mortgage.....						
Canada Southern.....	51½	52½	53½	55½	54	55½
1st mortgage guar.....	93	93	93	93		93½
Central of N. Jersey.....	76½	76½	77½	79½	76½	77½
1st mort. 1890.....						
7½, consol. ass.....	110	110				110
7½, convertible ass.....	108½		109½			
7½, Income.....						
Adjustment.....						
Central Pacific.....	91½	93	93½	94	94	94½
6s, gold.....	116½	116½	117			
1st M. (San Joa).....						
1st M. (Cal. & Or.).....						
Land grant 6s.....						
Chesapeake & Ohio.....	22½	22½	23½	23½	24	24
1st pref.....						
2d pref.....						
1st mort., series B.....						
Chicago and Alton.....	133	134	135	135	136½	
Preferred.....						
1st mortgage.....						
Sinking Fund.....						
Chi., Bur. & Quincy.....	128	130	129½	131	130	130½
7s, Consol. 1903.....	128½	127	127½			
Chi., Mil. & St. Paul.....	112½	112½	114½	115	115½	118
Preferred.....	127½	127½	128½	128½	129½	131
1st mortgage, 8s.....						
2d mort., 7 3-10s.....						
7s, gold.....						
1st M. (La. C. div.).....						
1st M. L. & M. div.....						
1st M. (L. & D. ext.).....						
1st M. (H. & D. div.).....						
1st M. (C. & M. div.).....						
Consolidated S. F.....						
Chi. & Northwestern.....	131	131½	132	132	131½	132½
Preferred.....	147	146½	147½	147½	146½	147½
1st mortgage.....						
Sinking Fund 6s.....						
Consolidated 7s.....						
Consol. Gold b'ds.....						
Do. reg.....						
Chi., R. Isl. & Pac.....	127½	128½	129½	129½	130	129½
6s, 1917, C.....						
Clev. Col. Cln. & Ind.....	73½	75½	76	76	75	
1st mortgage.....						
Clev. & Pittsburg gr.....						
7s, Consolidated.....						
4th mortgage.....						
Col. Chi. & Ind. Cent.....	8½	9	12½	12½	12	12
1st mortgage.....						
2d mortgage.....						
Del. & Hud Canal.....	112½	112½	113½	112½	114	112
Reg. 7s, 1891.....						
Reg. 7s, 1884.....						
7s, 1894.....						
Del. Lack. & Western.....	126	126½	126½	127	126½	126½
2d mortgage 7s.....						
Consol. 1907.....						
Erie Railway.....						
1st mortgage.....						
2d mort. 5s, ext.....						
3d mort. 5s, ext.....						
4th mort. 5s, ext.....						
5th mortgage.....						
7s, Consol. gold.....	127½					
Great West. 1st mort.....						
2d mortgage.....	100	99½				
Hannibal & St. Jo.....						
Preferred.....	82	82	81½	84		84
8s, Convertible.....						
Houston & Tex. Cen.....	80	80½	81	81½	80½	80½
1st mortgage.....						
2d mortgage.....						
Illinois Central.....	134	136	136½	136½	137	
Lake Shore & Mich So.....	109	109½	110½	110½	110½	110½
Consol. 7s.....						
Consol. 7s, reg.....						
2d Consolidated.....						
Leh. & W. B. con. ass.....						
Long Dock bonds.....						
Louisville & Nash.....	66½	67½	71½	70½	70½	70½
7s, Consolidated.....	117	117½				
Manhattan.....	50½		49½	51½	53	52
1st pref.....						
Met. Elevated.....	83½	85	84½			84½
1st mortgage.....	100½	100½	100½			100½
Michigan Central.....	90	90½	92	91½	92½	92½
7s, 1902.....						
Morris & Essex.....	124					121
1st mortgage.....	136					137

2d mortgage.....	117					
7s of 1871.....						
7s, Convertible.....						
7s, Consolidated.....						
N. Y. Cen. & Hud. R.....	131	131½	132½	134½	132½	133½
6s, S. F., 1883.....	102					
6s, S. F., 1887.....						
1st mortgage.....						
1st mortgage, reg.....						
N. Y. Elevated.....						
1st mortgage.....	115	115	116	115½		115
N. Y. & Harlem.....						
Preferred.....	203					205
1st mortgage.....						
1st mortgage, reg.....						
N. Y., Lake Erie & W.....	36	36½	36½	37	37½	38½
Preferred.....						
2d Consolidated.....	95½	95	95½	95½	95½	96½
New 2d 5s fund.....	91½	91½	91½	91½		92
N. Y., N. Hav'n & Hart.....	175	178	178			175
North Mo. 1st mort.....						
Northern Pacific.....	42½	43½	43½	44	43½	44½
Preferred.....	80½	81½	83½	82½	82½	83½
Ohio & Mississipp.....	38½	37½	37	37	37½	37½
Preferred.....						
2d mortgage.....						
Consolidated 7s.....						
Consol. S. Fund.....						
Pacific Mail S. S. Co.....	43	43½	44½	43½	47	47
Pacific R. R. of Mo.....						
1st mortgage.....	109½	108½				108½
2d mortgage.....						
Panama.....						
Phila. & Reading.....	57½	58½	59	58½	58	58½
Pitts. Ft. W. & Chi. gtd.....						
1st mortgage.....						
2d mortgage.....						
3d mortgage.....						
Pullman Palace Car.....						
Quickkill'r Min'g Co.....						
Preferred.....						
St. Louis & San Fran.....	37					38½
Preferred.....						
1st Preferred.....	92	92				95
St. L., Alt'n & T. H.....						
Preferred.....						
1st mortgage.....						
2d mort. pref.....						
Income bonds.....						
St. L., Iron Mt. & S.....						
1st mortgage.....	117					117
2d mortgage.....	105					
Toledo and Wabash.....						
1st mortgage.....						
2d mortgage.....						
7s, Consolidated.....						
St. Louis Division.....						
Union Pacific.....	110½	111½	112½	113½	113½	113½
1st mortgage.....	116½	117	117			117
Land Grant 7s.....						
Sinking Fund 8s.....						
United States Ex.....	72½	72½	72			72
Wabash, St. L. & Pac.....	28½	30	30½	32½	32½	34½
Preferred.....	51½	52½	53	54½	55½	58½
New mort. 7s.....						
Wells-Fargo Ex.....						
Western Pacific b'ds.....						
Western Union Tel.....	85½	86½	87½	87½	87½	87½
7s, S. F. conv., 1900.....						
FEDERAL STOCKS.—						
U. S. 4s, 1907, reg.....	118½	118½				118½
U. S. 4s, 1907, coup.....	118½	118½				119½
U. S. 4½s, 1891, reg.....	114					114
U. S. 4½s, 1891, coup.....	114					114
U. S. 5s, cont'd at 3½.....						100½
U. S. 6s cont'd at 3½.....						
Dt. of Col. 3-6s, reg.....						
Dt. of Col. 3-6s, coup.....						

Boston Stock Exchange.

Closing Prices for the Week Ending July 12.

Th. 6. F. 7. Sat. 8. M. 10. Tu. 11. W. 12.

Atch., Top. & San. Fe.....	88½	88½	89½	90½	91½	93
1st mortgage.....						
Land Grant 7s.....						
Boston & Albany.....	165½	166	165½	165½	165½	165½
Boston and Lowell.....	102½					
Boston & Maine.....	148½	148				147½
Boston & Providence.....						
Bos'n, Hart. & Erieys.....						
Burl. & Mo. R. L. G. 7s.....						
Burl. & Mo. R. in Neb.....						
6s, exempt.....	112½					
4s.....						
Chi., Burl. & Quincy.....	128	129	129½	130½	131	130½
Cin., Sand. & Clev. (\$50).....	27	27½	26	27½		
Concord (\$50).....						
Connecticut River.....						
Eastern.....	44	43½	43½	43½	43	43
New 4½ Bonds.....	109½	109½	109½	109½	109½	109½

Fitchburg.....	128	128				126½
N. Y. & New England.....						
7s.....	116½	116½	116½	116½	116½	116½
Northern N. H.....	109					
Norwich & Worcester.....						
Ogden & Lake Cham.....						
Old Colony.....	131½					132
Ph., Wil. & Balt. (\$50).....						
Portl'd, Saco & Ports.....						
Pueblo & Ark Val 7s.....	114½					114
Pullman Palace Car.....	125½	125½	126			128
Union Pacific.....	111½	112	113	113½		113½
6s.....	116½					
Land Grant 7s.....						
Sinking Fund 8s.....						
Vermont & Mass.....						
Worcester & Nashua.....						
Cambridge (Horse).....						
Metropolitan (Horse).....						
Middlesex (Horse).....						
Cal. & Hecla Min'g Co.....	249	249	249	248	248	
Quincy.....	57½	59½	60½	61½	61½	62

Philadelphia Stock Exchange.

Closing Prices for the Week Ending July 11.

W. 5. Th. 6. F. 7. Sat. 8. M. 10. Tu. 11

Allegh'y Val. 7 3-10s121½x	121½	121½	121½	121½	121½
7s, Income.....					
Buff., Pitts & West. 16½	16½	17½	17½	17½	17½
Camd'n & Am. 6s, '83					
6s, 1889.....					
Mort. 6s, 1889.....	113			112½	
Camden & Atlantic.....					
Preferred.....		45			
1st mortgage.....					
2d mortgage.....					
Catawissa.....	24½			24½	
Preferred.....		54			
2d pref.....		52			53
7s, new.....					
Del. & Bound Brook 7s					
Elmira & Williamspt					
Preferred.....					
Hunt. & B. Top Mt. Preferred			14½	14½	15
2d mortgage.....			26½		26½
Lehigh Navigation. 40	40	40½	41	40½	41½
6s, 1884.....	102½			103½	
Gold Loan.....					112
Railroad Loan.....					
Conv. Gold Loan.....					
Consol. Mort. 7s.....					
Lehigh Valley.....	60	60½	60½	60½	60½
1st mort. 6s, coup					
1st mort. 6s, reg. 120½					
2d mort. 7s.....					
Consol mort. 6s.....		121			
Consol.mtg. 6s,reg					
Little Schuylkill...					
Minehill&Sch. Hay'n					
North Pennsylvania 65	65			65	65
1st mortgage 6s.....		105			
2d mortgage 7s.....					
Gen'l. mtg. 7s, coup					
Gen'l. mtg. 7s, reg			121	122	
Northern Central.....			47		48
5s.....					
Northern Pacific... 41½	41½	43	43½	44	43½
Preferred.....	79	80½	81½	81	82½
Pennsylvania R. R. 58½	59½	59½	59½	59½	59½
1st mortgage.....					
Gen'l mort.....					
Gen'l mort reg.....			125		
Consol. mort. 6s.....		117			
Consol. mort. reg					
Pa. State 5s, new... do	48, new.....		116		116½
do 3½s, 1912.....					
Phila. & Reading... 28½	28½	29½	29½	28½	29½
1st mortgage 6s.....					
7s of 1893.....					
7s, new convert.....		78½	78½	78½	
Consol. mort. 7s.....		123			123½
Consol. mort. reg.....					
Gen'l mort. 6s.....	95½x	95½	95½	96	96½
Def. Income bonds					
Philadelphia & Erie 1st mortgage 5s.....		15½	15½	15½	15½
2d mortgage 7s.....					114
Pittsb., Cin. & St. L. 7s		97			
Pitts., Tit. & Buff. 7s					
Schuylkill Navi't'n. Preferred					
6s, 1895.....					
6s, 1882.....					
United Co. of N. J. 185	186½	186½	188	188	188
Hestonville, (Horse)					
Chestnut & Wal. (do.)					

Baltimore Stock Exchange.

Closing Prices for the Week Ending July 11.

	W.5.	Th.6.	F. 7.	Sat.8.	M.10.	Tu.11.
Baltimore & Ohio.....	195 1/4	195 1/4	197			
68, 1885.....			107			
Central Ohio (\$50).....						
1st mortgage.....						
Marietta & Cincin'ti.....						
1st mortgage, 78.....						
2d mortgage, 78.....	100 1/2	100 1/2	102 1/2			
3d mortgage, 88.....	47	47	47 1/2			
Northern Cen. (\$50).....						
2d mort., 68, 1885.....						56 1/2
3d mort., 68, 1900.....						
68, 1900, gold.....	116					
68, 1904, gold.....						
Pitts. & Connellsv. 78.....						
Virginia 68, Consol.....	57 1/2	57	57	58	58 1/2	
Consol. coupons.....	57	58	58	60	60	
10 40 bonds.....	42 1/2	42 1/2	43	43 1/2		
Def'd Certificates.....						
Western Maryland.....	17	17	17			
1st M., end. by Balt.....						
2d M., do.....						
3d M., do.....						
1st M., unendors'd.....						
2d M., end. WashCo.....						
3d M., preferred.....						
City Passenger R.R.....						

London Stock Exchange.

Closing Prices

	June 30.	June 23.
Baltimore & Ohio 58, 1927.....	105	107
Central of N. J., \$100 shares.....	93	98
Do. consol. mort.....	110	112
Do. Income Bonds.....	88	93
Det. G'd Haven & Mil. Equip bds.....	115	117
Do. Con. M. sp. c., till '83 aft' rdp.....	112	114
Illinois Central \$100 shares.....	136	137
Lehigh Valley Cons. mortgage.....	115	119
Louisville & Nashville mort 68.....	98	100
Do. capital stock \$100 shares.....	68	70
N. Y. Cent. & Hud. R. mt. bds.....	132	135
Do. \$100 shares.....	133	135
Do. mort. bonds (stg.).....	124	126
N. Y., Lake Erie & West., \$100 shs 36 1/2.....	37	36 1/2
Do. 6 p. c. pref. \$100 shares.....	74	76
Do. 1st Con. Mort. bds (Erie).....	128	130
Do. do. Funded Coupon bds.....	126	124
Do. 2d Consol Mort. bds.....	96	95
Do. do. Funded Coupon bds.....	92	94
N. Y., Pa. & Ohio 1st mort. bonds.....	43	45
Do. Prior Lien bds (sterling).....	108	103
Pennsylvania, \$50 shares.....	59 1/2	59
General Mortgage.....	124	122
Philadelphia & Reading \$50 shs 29 1/2.....	30 1/2	31 1/2
General Consol Mortgage.....	116	118
Do. Improvement Mortgage.....	103	105
Do. Gen. Mtg. 7 1/2, ex-def'd coup.....	99	101
St. L. Bridge 1st mort. gold b'd 125.....	127	125
Do. 1st pref. stock.....	95	98
Union Pacific 1st mtg.....	117	115
Wabash, St. L. & P. \$100 shs.....	28	30
Do. \$100 pref. shares.....	51	52 1/2
Do. gen. mort. bonds.....	79	81

AMERICAN RAILROAD JOURNAL.

Financial and Commercial Review.

THURSDAY EVENING, July 13, 1882.

The quotation for call loans during the day on stocks was 2 1/2 @ 3 per cent, and on United States bonds 2 @ 2 1/2 per cent.

The posted rates for prime bankers' sterling were 4.86 and 4.89. The actual rates were 4.85 @ 1/2 and 4.88 @ 1/2, with cable transfers 4.89 @ 1/2, and prime commercial 4.83 @ 1/2. The actual rates for Continental bills are as follows: France, 5.19 1/2 @ 5.18 1/2 and 5.15 1/2 @ 5.15, Marks, 94 1/2 and 95 1/2 @ 1/2, and Guilders, 40 and 40 1/2.

The Secretary of the Treasury issued on the 10th inst. the 115th call for the redemption of bonds. It is for \$16,000,000 of the 6 per cent registered bonds continued at 3 1/2 per cent from July 1, 1881. The principal and accrued interest will be paid at the Treasury Department in Washington on and after September 13, and the interest will cease on that day. The following is a description of the bonds: \$50, Nos. 801 to 900, both inclusive; \$100, Nos. 5,501 to 6,500, both inclusive; \$500, Nos. 3,601 to 4,150, both inclusive; \$1,000, Nos. 19,001 to 21,000, both inclusive; \$5,000, Nos. 6,401 to 6,900, both inclusive; \$10,000, Nos. 12,501 to 14,650, both inclusive.

The earnings of the Central Pacific Railroad Company for the first half of the year were at the rate exceeding 9 per cent per annum. The best business comes in the last half of the year, indicating earnings of fully 10 per cent for 1882. The proceeds of land sales for the half year were about \$250,000. These proceeds are devoted

to retiring land grant bonds, \$420,000 of which were taken up last year. The remainder of the \$1,500,000 7 per cent convertible bonds were retired last year out of the sinking fund.

The stockholders of the Cincinnati and Baltimore Railroad Company have ratified the sale of stock to the Baltimore and Ohio Railroad made by the trustees. The stock will be delivered August 1. This gives the control of the road to the Baltimore and Ohio.

The statement that the reserve fund of the Baltimore and Ohio Railroad Company would be pledged to raise funds for the construction of two Atlantic cables, is explicitly contradicted by President Garrett, who states that "The Baltimore and Ohio European Cable Company will use a cash capital in the construction of its lines."

In consequence of the troubles in Egypt the Pacific Mail Steamship Company has advanced its freight rates on its China and Australian line 33 per cent. It is claimed that already considerable business has been diverted from the Suez Canal to the Pacific Mail Steamship Company. The Central and Union Pacific Railroad Company also expect to benefit by the Egyptian troubles.

The Bank of Montreal has given notice that it will receive proposals for the sale to them of Canadian Pacific Railway first mortgage sinking fund five per cent land grant gold bonds, and will pay for them out of the proceeds of cash sales of lands pledged to the bank, and now available for that purpose to the extent of \$150,000. Bonds to the amount of \$760,000 received in payment for lands have been cancelled by the trustees.

The Western Union Telegraph Company has taken the lines and business of the Direct and French Cable Companies and established a general cable office near the Stock Exchange in this city, from whence it is intended to operate all the cables. In this arrangement the Direct and French companies lose their individuality so far as the land lines are concerned, but retain their cable stations.

The total internal revenue receipts for the fiscal year ended June 30, 1882, as figured up at the internal revenue bureau, aggregate \$146,265,492—an increase of \$11,265,492 over the receipts for the last fiscal year. These figures will be subject to some modification when the complete returns come in, but the difference will not be material.

The wheat crop of California is estimated at 50,000,000 bushels. Arrangements have been made to carry a large portion of this grain to Gulf ports by rail, instead of shipping by sailing-vessels as heretofore. This will add materially to the earnings of the Central Pacific Railroad Company.

The annual interest on the public debt is now about \$1.08 for every inhabitant. In 1875 it was more than twice this, being \$2.20 per capita, and in 1865 it was as high as \$4.29 per capita, or \$150,977,697, to be paid by 55,469,000 people.

The earnings of fifty-two roads for the month of June, as reported by the *Commercial and Financial Chronicle*, amounted to \$22,145,606, against \$22,345,051 in 1881. This showing, after making due allowance for increased mileage, is more favorable than generally anticipated, in view of the well-known fact that the movement of grain during the month was very light and that the traffic of the roads during June 1881, was unprecedentedly large. The earnings of forty-nine roads from January 1 to June 30 are given at \$135,468,367, an increase of \$16,430,595 as compared with those for the first half of 1881.

The following quotations of sales of railway and other securities, for the week, are in addition to those given elsewhere in our columns:

New York.—Atchison, Topeka and Santa Fe 93; Atchison, Colorado and Pacific 1st, 90; Boston and New York Air Line pref., 78 1/2; Boston, Hartford and Erie 1st, 52; Chicago, St. Paul, Minneapolis and Omaha, 46; do. pref., 105 1/2; do. consol., 104; Cincinnati, Sandusky and Cleveland, 55 1/2; Cedar Falls and Minn., 20 1/2; Chicago, St. Louis and New Orleans, 79; do. 58, 102 1/2; Chesapeake and Ohio cur. int., 51; do. 1st, Series A, 102; Chicago, Milwaukee and St. Paul, Southern Minn. div. 1st, 107; do. Chicago and Pacific West div. 1st, 91 1/2; Central Iowa 1st, 114; Col., Chi. and Ind. Cent. inc., 48; Chicago and Northwestern S. F. 58, 100 1/2; Cairo and Fulton 1st, 106; Chicago, Burlington and Quincy 8a, 101 1/2; Danbury and Norwalk, 64; Denver and Rio Grande, 58 1/2; do. 1st, 113 1/2; do. consol., 102; Dubuque and Sioux City, 85; Denver, South Park and Pacific 1st, 101 1/2;

East Tennessee, Virginia and Georgia, 11 1/2; do. pref., 19 1/2; do. inc., 47 1/2; Elizabethtown, Lexington and Big Sandy 68, 94; Evansville and Terre Haute 1st, 96; Fort Worth and Denver, 1st, 97 1/2; Green Bay, Winona and St. Paul, 11; Gulf, Colorado and Santa Fe 1st, 105 1/2; Houston and Texas Central 1st, Western div., 106; Indiana, Bloomington and Western, 42 1/2; do. Eastern div., 1st, 94; Indianapolis, Decatur and Springfield 1st, 103; International and Gt. Northern 1st, 106 1/2; do. coup. 68, 89; Jefferson 1st, 105; Kansas Pacific 1st consol., 103 1/2; do. 68, Denver div. ass., 109 1/2; Keokuk and Des Moines, 18; Louisville, New Albany and Chicago, 57 1/2; do. 1st, 100 1/2; Long Island, 59; do. consol. 58, 97 1/2; Louisiana and Missouri River, 16 1/2; Lake Erie and Western, 33 1/2; do. inc. 53; do. Sandusky div. inc., 50; Louisville and Nashville gen'l mort. 68, 96; do. N. O. and M. div. 1st, 93; Lafayette, Bloomington and Muncie 1st, 100; Manhattan Beach, 25 1/2; Minn. and St. Louis, 29 1/2; do. pref., 67; do. 1st, 116; Mobile and Ohio, 20 1/2; do. 1st mort., 109; do. 1st debent., 75; Missouri, Kansas and Texas, 37 1/2; do. gen'l mort. 68, 85 1/2; do. consol. 78, 109; do. 2d, 66; Missouri Pacific, 98 1/2; do. 1st consol., 100 1/2; do. 3d, 109 1/2; Milwaukee, Lake Shore and Western, 50; do. 1st, 101; Memphis and Charleston, 53; Marietta and Cincinnati 2d pref. 5 1/2; Michigan Southern S. F., 108; New Orleans Pacific 1st, 88; Nashville, Chattanooga and St. Louis, 60 1/2; do. 1st, 113 1/2; New York, Chicago and St. Louis, 12 1/2; do. pref., 30 1/2; do. 1st, 85 1/2; New York, Ontario and Western, 27; Norfolk and Western pref., 53 1/2; do. gen'l mort. 101 1/2; New York City and Northern gen'l mort., 53 1/2; Northern Pacific 1st, 101 1/2; Ohio Central, 16 1/2; do. inc., 35; do. 1st, 95; Ohio Southern, 15; do. 1st, 83; Oregon Transportation, 74 1/2; Oregon Short Line 68, 104; Oregon Railway and Nav., 141 1/2; do. 1st, 106 1/2; Peoria, Decatur and Evansville, 34 1/2; do. 1st, 108 1/2; do. inc., 75; Rochester and Pittsburgh, 33 1/2; do. 1st, 103 1/2; do. inc., 47 1/2; Richmond and Alleghany, 25; do. 1st, 84; Richmond and Danville, 101; do. debent., 68 1/2; do. 68, 99; Richmond, Danville and West Point, 55 1/2; St. Louis, Alton and Terre Haute div. bonds, 40; Southern Pacific of California 1st, 105 1/2; South Carolina 1st, 98; South Pacific of Missouri 1st, 105; St. Paul and Duluth pref., 86; St. Paul, Minneapolis and Manitoba, 135; do. 2d, 113; St. Louis, Iron Mountain and Southern 58, 80 1/2; Syracuse, Binghamton and New York 1st, 123 1/2; St. Louis and San Francisco 2d, Class B, 89; St. Paul and Sioux City 1st, 111; St. Louis, Kansas City and Northern, Omaha div. 1st, 106 1/2; do. R. E. 78, 103 1/2; Texas and Pacific, 48 1/2; do. inc. Land Grants, 66; do. Rio Grande div. 1st, 86 1/2; Toledo, Delphos and Burlington inc., 20 1/2; Utah Southern ext. 1st, 95; do. gen'l mort. 78, 105; Wabash, St. Louis and Pacific, gen'l mort. 68, 82; do. Iowa div. 1st, 90; do. Chicago div. 1st, 80; do. Cairo div., 70; Winona and St. Peter 1st, 106; Georgia 78, new, 105 1/2; Louisiana 78, consol. 71 1/2; Tennessee 68, 59; Am. Dist. Tel., 47; Canton Company, 45 1/2; Colorado Coal and Iron, 46 1/2; do. 1st, 90 1/2; Cameron Coal, 37; New Central Coal, 17; Homestake Mining, 18; Standard, 18 1/2.

Boston.—Atlantic and Pacific 68, 98; do. blocks, 110; do. inc., 26; Atchison, Topeka and Santa Fe plain 58, 87; do. 68, 1911, S. F., 102 1/2; Boston Land, 7 1/2; Boston Water Co., 4 1/2; Burlington and Missouri River in Neb., 68, non-exempt, 103 1/2; Connorton Valley, 7 1/2; Chicago, Burlington and Quincy 48, old, 86 1/2; do. 78, 126 1/2; do. 58, 1901, 101; do. Denver extension 48, 84 1/2; California Southern 68, 80; Chicago and West Michigan, 66; Chicago, Milwaukee and St. Paul, Dubuque div. 68, 104; Fort Scott, Springfield and Memphis, 100; Flint and Pere Marquette, 23 1/2; do. pref., 93 1/2; Fort Scott Branch 78, 110; Iowa Falls and Sioux City, 89 1/2; Kansas City, Lawrence and Southern 58, 105; Kansas City, St. Joseph and Council Bluffs 78, 114 1/2; Kansas City, Fort Scott and Gulf pref., 125; Louisiana and Missouri River, 16 1/2; do. pref., 26; Little Rock and Fort Smith, 55; Mexican Central, 25 1/2; do. 78, 86 1/2; do. inc., 26; do. blocks No. 2, 110; do. No. 3, 105 1/2; Massachusetts Central, 4 1/2; do. 68, 40; Marquette, Houghton and Ontonagon, 72 1/2; do. pref., 120; Maine Central, 73 1/2; New Mexico and Southern Pacific 78, 113 1/2; New York and New England 68, 104 1/2; Oregon Short Line subscriptions, 117; do. 68, 102; Ogdenburg and Lake Champlain consol. 68, 94; Portsmouth, Gt. Falls and Conway, 89 1/2; Rutland, 3 1/2; do. pref., 25; do. 68, 100; Sonora 78, 105; Summit Branch, 11 1/2; Southern Kansas and Western 78, 109 1/2; Toledo, Delphos and Burlington 68, 24; do. Southeast div. inc., 18; do. Dayton div. inc., 17 1/2; Toledo, Cincinnati and

St. Louis, 7½; do. 6s, 66½; do. inc., 17½; Wisconsin Central, 17½; do. pref., 30; do. 7s, 2d series, 45; Wisconsin Valley 7s, 113½; Atlantic Mining Co., 14½; Franklin, 13½; National, 1½; Osceola, 31½; Pewabic, 9½; Silver Lake, 18.

Baltimore.—Atlantic Coal, 1.15; Atlanta and Charlotte inc., 85; Baltimore City 6s, 1890, 117½; do. 6s, 1902, 130½; do. 6s, 1886, 108½; do. 5s, 1916, 124½; Columbia and Greenville 1st, 101½; Maryland State 6s, 1885, 108; do. Defense 6s, 105½; Marietta and Cincinnati 1st Trust certificates, 128½; do. 2d do. 102, do. 3d do., 56½; Northern Central 5s, 96½; Ohio and Mississippi, Springfield div. 1st, 116½; Richmond and Danville gold bonds, 99½; Sutro Tunnel, 0.41; Virginia tax coupon, 59; Virginia 10-40s coupons, 66; Virginia Peabody, 31; Virginia Midland 2d mort., 109½; do. 5th mort., 95. The latest quotations are: Atlanta and Charlotte 1st, 107½@109; Baltimore and Ohio, 193@196½; do. 6s, 1885, —@107; Baltimore City 6s, 1886, 108½@—; do. 6s, 1890, 117½@117½; do. 5s, 1902, 130@—; do. 5s, 1916, 124½@125; Columbia and Greenville 1st, 101½@102; Marietta and Cincinnati 1st, 127@129; do. 2d, 101½@102; do. 3d, 56½@56½; Norfolk Water 8s, 131@—; Northern Central, 47½@47½; do. 6s, 1900, 116@—; do. 6s, 1900, gold, —@116½; do. 6s, 1904, gold, 114½@—; do. 5s, 1926, 97@99; Norfolk and Western pref., 51@—; Ohio and Mississippi, Springfield div. 1st, 116½@117; Pittsburg and Connellsville 7s, 120½@121½; Richmond and Danville, 100½@103; Union Canal 6s, ind. by Canton Co., 115@117; Virginia Midland 5th mort., 95@95½; do. inc., 63@70; Virginia consols, 58@58½; do. 2d, 104@108, 43½@43½; Wilmington and Weldon 7s, 112@—; Western Maryland 2d mort., guar. by Washington county, 115@—.

Philadelphia.—American Steamship Company, 23½; Buffalo, Pittsburgh and Western, 26; Central Transportation, 33; Elmira and Williamsport 5s, 100½; Nesquehoning Valley, 54; Norfolk and Western pref., 53; New Orleans Pacific 6s, 88; Pennsylvania Canal 6s, 90; Pennsylvania Company 4½s, 96; Philadelphia and Reading scrip, 101½; do. debent. 6s, 60; Philadelphia, Wilmington and Baltimore 4s, 94½; Philadelphia City 4s, 1904, 112½; do. 6s, 1900, 131; Philadelphia and Trenton, 186; Sunbury, Hazleton and Wilkesbarre 2d, 25; Schuylkill Nav. 6s, 1907, 92; Texas and Pacific 1st, 107½; do. consol. mort. 6s, 96; Union and Titusville 7s, 93; West Jersey Railroad, 46. The latest quotations are: City 6s, 108@120; do. free of tax, 127@133; do. 4s, new, 108@113; Pennsylvania State 5s, new loan, 118½@119½; do. 4s, old, 108@112; do. 4s, new, 115@116; Philadelphia and Reading Railroad, 29½@29½; do. consol. mort. 7s, reg. 124@125; do. gen'l mort. 6s, coupon, 95½@96½; do. 7s, 1893, 118½@119½; do. new conv., 78@80; United New Jersey R. R. and Canal, 187@188; Buffalo, Pittsburg and Western, 17½@17½; Pittsburgh, Titusville and Buffalo 7s, 97@98; Camden and Amboy mort. 6s, 1889, 112½@113; Pennsylvania R. R., 59½@59½; do. general mort. 6s, coupon, 123@124; do. reg., 122@124; do. consol. mort. 6s, reg., 118@120; Little Schuylkill R. R., 56@58; Schuylkill Navigation, pref., 13@14; do. 6s, 1882, 91@93; Elmira and Williamsport pref., 58@60; do. 5s, 100@101; Lehigh Coal and Navigation, 41½@41½; do. 6s, 1884, 103@103½; do. R. R. loan, 116@116½; do. Gold Loan, 111½@112½; do. consol. 7s, 116@116½; Northern Pacific, 43½@43½; do. pref., 82½@82½; North Pennsylvania, 64½@65½; do. 6s, 105@108; do. 7s, 118@119; do. 7s, General mort. reg., 122@123; Philadelphia and Erie, 15@16; do. 7s, 113½@114½; do. 5s, 103½@104½; Minehill, 62½@63½; Catawissa 2d@25; do. pref., 54@54½; do. new pref., 52½@53½; do. 7s, 1900, 120@—; Lehigh Valley, 60@60½; do. 6s, coupon, 120@122; do. reg., 120@121; do. 7s, 133@135; do. consol. mort. 121@121½; Fifth and Sixth streets (horse), 152@160; Second and Third, 109@112; Thirteenth and Fifteenth, 65@75; Spruce and Pine, 40@45; Green and Coates, 80@90; Chestnut and Walnut, 90@93; Germantown, 70@70½; Union, 110@115; West Philadelphia, 105@115; People's 15@15½; Continental, 100@102.

WILLIAM H. VANDERBILT, Cornelius Vanderbilt, William K. Vanderbilt, Frederick W. Vanderbilt, Augustus Schell, Abraham B. Baylis, J. B. Dutcher, Robert J. Nivin, Joseph Harker, Chauncey M. Depew, William H. Leonard, Samuel F. Barger and J. E. Burrill have been elected directors of the Spuyten Duyvil and Fort Morris Railroad.

The Coal Trade.

THE leading coal-carrying companies make the following reports of their tonnage for the week ending July 1st, and for the year to that date, compared with their respective amounts carried to the same time last year:—

	Week.	1882.	1881.
Reading Railroad.....	205,010	4,332,815	4,141,712
Schuylkill Canal.....	9,164	155,180	197,183
Lehigh Valley.....	141,930	3,386,969	3,085,584
Delaware, Lackawanna and Western.....	107,431	2,014,921	1,960,376
Shamokin.....	29,383	493,182	507,573
Central R. R. of New Jersey.....	111,306	1,981,263	1,960,232
United R. R. of New Jersey.....	42,411	809,611	743,883
Pennsylvania Coal.....	38,377	581,205	585,862
Delaware and Hudson Canal.....	84,171	1,538,120	1,656,297
Huntingdon and Broad Top Mountain.....	6,076	219,962	236,554
Penn. and New York.....	30,570	818,625	798,997
Clearfield, Pa.....	22,845	1,467,000	1,182,802

The total tonnage of anthracite coal from all the regions for the week ending July 1st, as reported by the several carrying companies, amounted to 656,567 tons, against 655,631 tons in the corresponding week last year, an increase of 40,936 tons. The total amount of anthracite mined for the year is 12,781,927 tons, against 12,529,212 tons for the same period last year, an increase of 252,715 tons. The quantity of bituminous coal sent to market for the week amounted to 34,743 tons, against 38,976 tons in the corresponding week last year, a decrease of 24,233 tons. The total amount of bituminous mined for the year is 1,792,019 tons, against 1,503,485 tons for the corresponding period last year, an increase of 288,534 tons. The total tonnage of all kinds of coal for the week is 731,310 tons, against 714,607 tons in corresponding week last year, an increase of 16,703 tons, and the total tonnage for the coal year is 14,573,946 tons, against 14,032,697 tons to same date last year, an increase of 541,249 tons. The quantity of coal and coke carried over the Pennsylvania Railroad for the week ending June 24 was 225,165 tons, of which 179,188 tons were coal and 45,977 tons coke. The total tonnage for the year thus far has been 5,340,723 tons, of which 3,878,727 tons were coal and 1,461,996 tons coke. These figures embrace all the coal and coke carried over the road, east and west. The shipments of bituminous coal from the mines of the Cumberland coal region for the week ended July 1 were 9,503 tons and for the year to that date 530,261 tons, a decrease of 420,495 tons as compared with the corresponding period of last year. The shipments were: To the Baltimore and Ohio Railroad—For the week, 8,545 tons; year, 441,245 tons; decrease as compared with 1881, 224,826 tons. Chesapeake and Ohio Canal—Week, 958 tons; year, 10,340 tons; decrease as compared with 1881, 164,064 tons. Pennsylvania Railroad—Week, none; year, 74,842 tons; decrease as compared with 1881, 35,201 tons. The Reading Railroad shipment for last week, ending July 8, was about 136,400 tons, of which 44,800 tons were sent to and 52,000 tons shipped from Port Richmond, and 8,300 tons sent to and 10,100 shipped from Elizabethport.—Philadelphia Ledger, July 10.

Delaware Foundry.

THE Delaware Foundry Company has sold its entire plant, comprising the large foundry building and lot on Front street, extending nearly the entire square from Washington to Jefferson street, to the Harlan & Hollingsworth Company. The terms of the sale are not made public, but the latter company took possession and began operating the works on the first of the present month. The business will be continued under the supervision of William H. Fairlamb, former secretary and treasurer of the Delaware Foundry Company. It is the intention of the Harlan & Hollingsworth Company to enlarge the Delaware Foundry, supply new machinery and increase its capacity considerably. This foundry was established in 1849 by Stotsenburg & Son, and in 1879 was incorporated as the Stotsenburg Foundry Company. The Delaware Foundry Company was organized in 1881, with A. L. Henderer, president, the late Samuel G. Tazewell, vice-president,

and William H. Fairlamb, secretary and treasurer.—Wilmington (Del.) Every Evening.

THE Hagerstown (Md.) Globe says the citizens of Hancock have subscribed \$21,000 toward building a bridge across the Potomac, and that the Baltimore and Ohio Railroad Company has consented to make up the deficiency.

Spreading of rails under high temperature is a source of danger the magnitude of which travelers know little. When the ends of the rails are too close, as they are very apt to be when laid by the usual rule of thumb way in cold weather, they are certain to press against each other and bulge out the track into a sort of double wave line in summer. Spikes will not cure the difficulty. Indeed, the less strain placed upon spikes the better for everybody. Here is the remedy for spreading which one now forever silent was about to put into practical shape and patent, but which may be here given free: No track for a railroad should be laid without a constant consultation of the thermometer and the application of gauges properly regulated for temperature. That is the general idea, the force of which will be seen at once by every railroad engineer. Inventors may find in this hint something valuable. A reliance on spikes against spreading might be shown to be nonsense by a little boy who had received his first lesson in "expansion" of bodies. The absence of spikes, though, may show that the rails had spread and that the inspection was negligent.

THE Indianapolis Journal says that a new question among railroad men has sprung up regarding the most profitable and economical length for rails on the track. Up to ten years ago a rail sixteen feet in length was in general use; then the more prominent lines began laying a thirty-two foot length rail. Now several roads are introducing a rail sixty feet in length, and as soon as the new mill at Chicago is fairly in operation, rails one hundred and twenty feet in length are to be manufactured, and tested on one of the northwestern lines. This mill will be the only one in the country so constructed that a one hundred and twenty-foot rail can be turned out. The argument in favor of long rails is the fact that the chief wear on the rail is at the joints, which become battered usually long before the body of the rail is much worn. Then it is further argued that the wheels under the cars will wear a third longer on a 120-foot rail, they being more worn in pounding the ends of the rails than in the actual turning of the wheels. It will be noticed, further, that with the lengthening of the rail a heavier rail is taking the place of a lighter one, but a few first-class roads now laying a rail lighter than sixty pounds to the yard. Champions of the long rails favor a rail that will weigh seventy to eighty pounds to the yard. They claim that with a rail one hundred and twenty feet in length, weighing eighty pounds to the yard, a track will last a quarter of a century, with slight repairs in the way of new cross ties. One objection will be, however, its great weight, which will make it difficult to handle, unless it is done by a derrick car.

RAILROAD AND CANAL DIVIDEND STATEMENT.

Showing the amount of Stock Outstanding, the Dividend Periods and the date of last Dividend.

Marked thus (*) are leased roads.	Stock outstanding.	Divide'd Periods.	Last Dividend Payable.	Marked thus (*) are leased roads.	Stock outstanding.	Divide'd Periods.	Last Dividend Payable.	Marked thus (*) are leased roads.	Stock outstanding.	Divide'd Periods.	Last Dividend Payable.
Albany and Susq.*...100	2,500,000	semi-an	July '82 2	Little Miami.....50	4,637,300	q'terly	June '82 2	Ware River*.....100	750,000	semi-an.	July '82 3 1/2
Ashuelot.....100	210,000	q'terly	Oct. '81 3 1/2	Little Rock & Ft. S. 100	4,096,135	.....	July '81 10 1/2	Warren (N. J.).....100	1,800,000	semi-an.	July '82 3 1/2
Atch., Top. and S. Fer. 100	54,000,000	q'terly	Aug. '82 1 1/2	Little Schuylkill*...50	2,646,100	semi-an.	July '82 3 1/2	Warwick Valley.....100	340,000	semi-an.	July '82 2 1/2
Atlanta and W. Point 100	1,232,200	semi-an	Jan. '82 6	Louisville & Nashv. 100	19,130,913	semi-an.	Feb. '82 3	Westchester & Phil. pref. 100	821,300	semi-an.	July '82 2
Atlantic and St. Law* 100	5,840,000	semi-an	Mar. '82 3	Lowell & Andover.....100	500,000	semi-an.	Jan. '82 3 1/2	West Jersey.....100	1,359,750	semi-an.	Apr. '82 3 1/2
Augusta and Savannah 100	1,022,900	semi-an	June '81 3 1/2	Lykens Valley.....100	600,000	q'terly	Oct. '81 2 1/2	Wilmington & Weld'n. 100	1,456,200	semi-an.	July '82 3
Aron, Genesee & M. M. 100	225,000	semi-an	July '81 3	Manchester & Law.....100	1,000,000	semi-an.	May '82 5	Wil., Col., & Aug.....100	960,000	semi-an.	July '82 3
Baltimore and Ohio.....100	14,792,566	semi-an	May '82 5	Manhattan.....100	13,000,000	.....	.....	Winchester & Poto'c.* 100	180,000	semi-an.	July '82 3
" " pref. 100	5,000,000	semi-an	July '82 3	" " 1st pref. 100	6,500,000	q'terly	July '82 1 1/2	Winchester & Straub.* 100	74,700	semi-an.	July '82 3
Washington Br.....100	1,650,000	semi-an	Apr. '82 5	" " 2d pref. 100	6,500,000	q'terly	July '82 1 1/2	Worcester & Nashua. 75	1,789,800	semi-an.	July '82 1 1/2
Berkshire.....100	600,000	q'terly	Apr. '82 1 1/2	Marietta & Cincinnati 50	1,386,350	.....	.....	HORSE-POWER R. R.			
Boston and Albany.....100	20,000,000	q'terly	June '82 2	" " 1st pref. 50	8,105,600	semi-an.	Sep. '66 3 1/2	Albany City.....100	200,000	annual	July '80 5 1/2
Bos. & N. Y. Air Line pf. 100	2,795,227	q'terly	June '82 1	" " 2d pref. 50	4,440,000	semi-an.	Sep. '66 3 1/2	Baltimore City.....25	1,000,000	semi-an.	July '82 3
Bos., Cl. F. & N. B. pref. 100	1,750,100	.....	Apr. '82 3 1/2	Marq. Hout. & Ont. pf. 100	2,250,026	.....	Feb. '82 4	Balt., Cat. & El. Mills.....100	.....	semi-an.	July '82 3 1/2
Bos., Conc. & Mont. pf. 100	800,000	semi-an	May '82 3	Massachusetts.....100	400,000	semi-an.	Feb. '82 3	Bleeker St. & Ful. F'y. 100	900,000	semi-an.	July '81 1/2
Boston and Lowell.....500	3,940,000	semi-an	July '82 2	Michigan Central.....100	18,738,204	q'terly	Aug. '81 1	Boston & Chelsea pref. 50	110,000	semi-an.	Oct. '82 3
Boston and Maine.....100	6,921,274	semi-an	May '82 4	Middlesex Central.....100	280,000	semi-an.	Feb. '82 3	Broadway (Brooklyn) 100	250,000	q'terly	Oct. '81 3
Boston & Providence.....100	4,000,000	semi-an	May '82 4	Mill Creek & Minehill* 50	323,000	semi-an.	Jan. '82 5	B'way & 7th Av. (N. Y.) 100	2,100,000	q'terly	Oct. '81 2
Attleborough Br.....100	131,700	semi-an	July '82 3 1/2	M. Hill & Schuyl. Hav* 50	4,022,500	semi-an.	July '82 3 1/2	B'klyn & Hunter's Pt. 100	400,000	q'terly	Oct. '81 2
Bos., Revere B. & Lynn 100	419,400	semi-an	July '82 3 1/2	Missouri Pacific.....100	28,169,800	q'terly	July '82 1 1/2	Brooklyn City.....100	2,000,000	q'terly	Dec. '81 3 1/2
Buffalo, N. Y. & Erie* 50	950,000	semi-an	June '82 3	Mobile & Montgomery 100	3,022,517	annual	Feb. '80 2 1/2	Bushwick (Brooklyn) 100	309,000	semi-an.	July '81 2 1/2
Camden & Atlantic.....50	377,400	q'terly	Apr. '80 3 1/2	Mont. & Wells River 100	800,000	annual	Feb. '80 2	Cambridge.....100	908,000	q'terly	July '81 2 1/2
" " pref. 50	880,650	q'terly	Apr. '80 3 1/2	Morris and Essex.....50	15,000,000	semi-an.	July '82 3 1/2	Can. Park N. & E. Riv. 100	1,800,000	q'terly	July '82 2
Camden & Burl. Co. 100	381,925	semi-an	July '82 3	Mt Carbon & P. Carbon 50	282,350	semi-an.	Jan. '82 6	Christoph. & Tenth St. 100	650,000	semi-an.	Aug. '81 2 1/2
Canada Southern.....100	15,000,000	.....	June '81 3 1/2	Nashua and Lowell.....100	800,000	semi-an.	May '82 4	Citizens' (Phil.).....50	192,500	q'terly	Jan. '82 3
Cape May & Millville* 50	447,000	semi-an	Oct. '81 1 1/2	Nashua & Rochester 100	1,305,800	semi-an.	Apr. '82 1 1/2	Citizens' (Phg.).....50	800,000	annual	July '80 14 1/2
Catawissa.....100	1,159,500	annual	Oct. '81 1 1/2	Nashv. & Decatur.....100	1,827,000	semi-an.	June '81 3	Citizens' (Phg.).....50	500,000	semi-an.	Oct. '80 5
" " pref. 20	2,200,000	semi-an	May '82 3 1/2	Naugatuck.....100	2,000,000	semi-an.	Jan. '82 5	Continental (Phil.).....50	580,000	semi-an.	July '82 6
Cayuga and Susq.*.....50	589,110	semi-an	July '81 4 1/2	Nesquehoning Valley* 50	1,300,000	q'terly	Mar. '82 3	D. Dock, E. B'way & Batrol 100	1,000,000	q'terly	Nov. '81 4
Cedar Rapids & Mo. R.* 100	6,850,400	q'terly	May '82 1 1/2	N. Castle & Beaver Val* 50	600,000	q'terly	July '82 1 1/2	Eight St. & G. St. Ferry 100	747,000	semi-an.	Nov. '81 6
" " pref. 100	769,600	semi-an	Feb. '82 3 1/2	New London North* 100	1,500,000	q'terly	July '82 2	Frank & Southw (Ph) 50	600,000	q'terly	Jan. '82 6
Central of Georgia.....100	7,500,000	semi-an	June '82 4	N. Y. Cen. & Hud. R. 100	89,428,330	q'terly	July '82 4	Germantown, (Ph.).....50	572,800	q'terly	July '82 2 1/2
Central of New Jersey.....100	18,563,200	q'terly	July '76 2 1/2	N. Y. and Harlem.....100	7,950,000	q'terly	July '82 4	Girard College (Ph.).....50	500,000	semi-an.	July '71 3
Central Ohio*.....50	2,437,950	semi-an	July '82 3	" " City Line.....100	1,500,000	q'terly	Apr. '82 3	Grand St. & Newton. (Ph) 50	770,091	semi-an.	July '81 2 1/2
" " pref. 50	411,550	semi-an	July '82 3	N. Y. Lake Erie & West. 100	77,083,900	.....	Jan. '82 6	Green & Coates St. (Ph) 50	150,000	q'terly	July '82 3
Central Pacific.....100	59,275,500	semi-an	Feb. '82 3	" " pref. 100	8,156,825	.....	Jan. '82 6	Heston, Mantau & F'm 50	209,381	semi-an.	Jan. '75 4
Chemung*.....100	380,000	q'terly	July '81 1 1/2	N. Y., N. H. & Hart.....100	15,500,000	semi-an.	Jan. '82 5	Highland.....100	600,000	semi-an.	July '82 4
Cheshire preferred.....100	2,155,300	semi-an	July '82 1 1/2	N. Y., Prov. & Boston 100	3,000,000	q'terly	May '82 2	Lomb. & South St. (Ph) 25	195,000	semi-an.	Oct. '75 4
Chicago and Alton.....100	11,181,741	semi-an	Mar. '82 4	Niag. Bridge & Canad* 100	1,000,000	semi-an.	July '81 3	Lynn and Boston.....100	200,000	semi-an.	May '82 4
" " pref. 100	2,245,400	semi-an	Mar. '82 4	North Carolina*.....100	3,000,000	semi-an.	Sep. '81 3	Malden and Melrose.....100	165,000	.....	.....
Chi., Burl. & Quincy.....100	55,337,455	q'terly	June '82 2	" " pref. 100	1,000,000	semi-an.	Sep. '81 3	Metropolitan (Bost.).....100	1,500,000	semi-an.	July '82 4
Chi., Iowa & Nebraska 100	14,401,483	semi-an	Apr. '82 3 1/2	N. Eastern (S. C.) pref. 100	86,000	semi-an.	May '81 4	Middlesex (Boston).....100	650,000	semi-an.	May '82 3 1/2
Chi., Mil. & St. Paul.....100	20,404,261	semi-an	Apr. '82 3 1/2	Norfolk & Western pref. 100	15,000,000	q'terly	June '82 3 1/2	N. Y., Bay Ridge & Jam. 100	150,000	.....	Oct. '78 7
" " pref. 100	14,018,257	semi-an	June '82 3 1/2	North Pennsylvania.....50	4,527,150	q'terly	May '82 1 1/2	Ninth Av. (N. Y.).....100	797,320	.....	.....
Chi. & N. Western.....100	21,525,353	q'terly	June '82 2	Northern Central.....50	6,142,500	semi-an.	July '82 3	Orange & Newark.....100	282,555	.....	.....
Chi., R. I. & Pacific.....100	41,960,000	q'terly	Aug. '82 1 1/2	Northern N. Hampshire 100	3,068,400	semi-an.	July '82 3	People's (Phila.).....25	124,744	.....	Apr. '82 2
Chi. and West Mich.....100	6,151,000	semi-an	Feb. '82 2 1/2	Northern N. Jersey.....100	1,000,000	semi-an.	July '80 2 1/2	Philadelphia City.....50	475,000	semi-an.	July '81 3 1/2
Chi., St. P. & M. & O. pref. 100	10,390,000	q'terly	July '82 1 1/2	Norwich & Worcester* 100	2,604,400	semi-an.	July '82 5	Phila. and Darby.....20	200,000	semi-an.	July '81 3 1/2
C. Ind., St. L. & Chi.....100	6,000,000	q'terly	July '82 1 1/2	Ohio.....100	18,500,000	.....	.....	Phila. & Grey's Ferry.....50	308,000	semi-an.	Jan. '82 6
Cin., Sand. & Clev. pf. 50	429,037	semi-an	May '82 3	Ohio and Miss. pref. 100	4,030,000	semi-an.	Mar. '75 3 1/2	Phg. Alleg. & Manches.....50	300,000	q'terly	Oct. '81 3
Clev. and Mahoning* 50	3,759,200	semi-an	Nov. '81 3 1/2	Old Colony.....100	7,333,800	semi-an.	July '82 3 1/2	Ridge Avenue (Ph.).....50	420,000	semi-an.	Oct. '81 11
Clev. and Pittsburg* 50	11,244,336	q'terly	June '82 1 1/2	Oregon R'way & Nav. 100	6,000,000	q'terly	May '82 2	Second Avenue (N. Y.) 100	1,199,500	semi-an.	July '81 2 1/2
Columbus & Xenia* 50	1,786,200	q'terly	June '82 2	Oswego & Syracuse.....100	1,320,400	semi-an.	Aug. '81 4 1/2	Second & Third St. (Ph) 50	771,076	q'terly	Jan. '82 4
Colum. & Hocking Val. 100	2,500,200	semi-an	Aug. '81 20 1/2	Panama.....100	7,000,000	.....	July '82 6 1/2	Seventh & 19th sts (Ph.) 50	250,000	semi-an.	Oct. '81 3
Concord.....100	1,500,000	semi-an	May '82 5	Paterson & Hudson*.....100	630,000	semi-an.	July '82 4	Sixth Avenue (N. Y.) 100	750,000	semi-an.	Oct. '81 5
Concord and Ports*.....100	350,000	semi-an	July '82 3 1/2	Paterson & Ramapo.....100	248,000	semi-an.	July '82 4	Somerville (Boston).....100	113,000	semi-an.	May '82 3
Conn. & Passump. Riv. 100	2,244,400	semi-an	Feb. '82 3	Pemb. & Hightst*.....50	342,150	semi-an.	Jan. '82 3	South Boston.....100	600,000	semi-an.	July '82 4
Connecticut River.....100	2,100,000	semi-an	July '82 4	Pennsylvania.....50	77,672,750	semi-an.	May '82 4	Third Avenue, N. Y. 100	2,000,000	q'terly	Nov. '81 5
Cumberland Valley.....50	1,292,950	q'terly	July '82 2 1/2	Pennsylvania Co.....50	20,000,000	semi-an.	June '81 2 1/2	13th and 15th sts. Ph 50	334,529	q'terly	Jan. '82 4
" " 1st pref. 50	241,900	semi-an	Apr. '82 4	Peoria & Bureau Val* 100	1,200,000	semi-an.	Feb. '82 4	23d street, N. Y. 100	600,000	semi-an.	Aug. '81 4
" " 2d pref. 50	243,000	semi-an	Apr. '82 4	Philadelphia & Erie*.....50	7,013,700	semi-an.	.....	Union, Boston.....100	374,300	semi-an.	Jan. '82 4
Danbury & Norwalk.....100	600,000	.....	Apr. '82 1 1/2	" " pf. 50	2,400,000	semi-an.	Jan. '75 4	Union, Phila.....50	1,005,000	semi-an.	Jan. '82 7
Dayton and Mich.*.....50	2,402,573	semi-an	Apr. '82 1 1/2	Phil. Ger. & Norrist*.....50	2,231,900	q'terly	Jan. '82 5	West Philadelphia.....50	750,000	semi-an.	July '77 10
" " pref. 50	1,217,250	q'terly	July '82 2	Phil. and Reading.....50	32,726,375	q'terly	Jan. '76 2 1/2	CANALS.			
Delaware*.....25	1,468,040	q'terly	July '82 3	" " pref. 50	1,551,800	q'terly	Jan. '76 3 1/2	Chesapeake and Dela.....50	2,078,038	semi-an.	June '75 2
Del. & Bound Brook* 100	1,632,000	q'terly	May '82 1 1/2	Phila. and Trenton.....100	1,259,100	q'terly	July '82 2 1/2	Delaware Division.....50	1,633,350	semi-an.	Feb. '82 1 1/2
Del., Lack. & Western 100	26,200,000	q'terly	July '82 2	Phila., Wil. and Balt. 100	11,585,750	semi-an.	July '82 4	Delaware and Hudson 100	20,000,000	q'terly	June '82 1 1/2
Denver & Rio Grande.....100	29,160,000	q'terly	Aug. '82 1 1/2	Pittab. Ft. W. & Chi.* 100	10,714,285	q'terly	July '82 1 1/2	Delaware & Raritan*.....100	5,847,400	q'terly	July '82 2 1/2
Den., South P. & Pac. 100	3,500,000	.....	Aug. '80 4	" " Special Imp. 100	6,770,900	q'terly	July '82 1 1/2	Lehigh Coal and Nav 50	11,204,250	semi-an.	June '82 2
Detroit, Lana. & Nor. 100	1,825,600	semi-an	Aug. '80 2 1/2	Pittsfield & N. Adams.....100	450,000	semi-an.	July '82 2 1/2	Monongahela Nav.....50	1,004,500	semi-an.	July '82 2
" " pref. 100	2,503,380	semi-an	Aug. '80 2 1/2	Portl., Saco & Portland 100	1,500,000	semi-an.	July '82 3	Morris, consolidated.....100	1,025,000	semi-an.	Feb. '81 2
Dubuque & Sioux C'y* 100	5,000,000	semi-an	Apr. '82 3	Providence & Worcester 100	2,000,000	semi-an.	July '82 3	" " preferred.....100	1,775,000	semi-an.	Feb. '81 5
East Pennsylvania*.....50	1,709,550	semi-an	July '82 3	Rensselaer & Saratog.* 100	7,000,000	semi-an.	July '82 4	Pennsylvania.....50	4,501,200	.....	.....
East Mahanoy*.....100	392,950	semi-an	July '82 3	Rhode Island & Mass. 100	100,000	.....	Jan. '81 3	Schuyl. Nav., com.*.....50	859,100	annual.	Aug. '81 50 1/2
Eastern (N. H.).....100	492,500	semi-an	June '82 2 1/2	Richmond & Danv.....100	3,866,000	q'terly	May '82 2	" " pref. 50	3,200,000	annual.	Aug. '81 1 1/2
Eel River.....100	3,000,000	annual	June '82 1 1/2	Richmond & Petersb. 100	1,009,300	semi-an.	Jan. '81 3	MISCELLANEOUS.			
Elmira, Jef. & Canand* 100	500,000	annual	Sep. '80 5	Roch. & Genesee Val.* 100	555,200	semi-an.	Jan. '82 3	Adams Express.....100	12,000,000	q'terly	June '82 2
Elmira & Williamst* 50	500,000	semi-an	May '82 1 1/2	Rome, Watert. & Ogd. 100	5,293,900	semi-an.	July '75 1 1/2	American Express.....50	18,000,000	semi-an.	July '82 3
" " pref. 50	500,000	semi-an	July '82 3 1/2	Rutland preferred.....100	4,000,000	semi-an.	Feb. '82 1	Amoskeag Manuf. Co. 100	3,000,000	semi-an.	June '81 5
Erie and Pittsburg*.....50	1,998,400	q'terly	June '82 1 1/2	St. L., Alt. & T. Haute.....100	2,300,000	.....	.....	Calumet & Hecla Min'g.....100	100,000 S.	q'terly	May '82 1 1/2

RAILROAD EARNINGS—MONTHLY.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
BURL., CEDAR RAP. & NORTHERN:													
1880.....	184,316	165,170	188,325	141,652	149,504	153,378	143,432	160,160	179,804	204,991	189,330	193,419	2,053,484
1881.....	167,750	124,510	146,551	184,680	105,630	105,912	174,351	209,112	221,804	221,748	203,880	232,812	2,259,037
1882.....	252,823	225,631	224,107	178,304	199,278	211,257	.....	209,112	221,804	221,748	203,880	232,812	2,259,037
CENTRAL PACIFIC:													
1880.....	1,200,614	1,070,487	1,373,438	1,356,716	1,778,488	1,724,950	1,840,067	1,973,438	1,964,997	1,120,229	2,199,466	1,905,221	20,508,112
1881.....	1,602,907	1,454,218	1,709,037	1,872,370	2,091,410	2,159,381	1,859,590	2,059,000	2,293,676	2,514,000	2,267,000	2,110,000	23,947,951
1882.....	1,876,000	1,702,000	1,987,000	2,052,000	2,353,000	2,239,000	.....	.....	.....	.....	.....	.....	.....
CHEAPFAKE AND OHIO:													
1880.....	202,335	198,681	222,762	221,559	199,443	214,352	238,236	259,110	247,303	211,820	240,795	218,000	2,674,308
1881.....	162,540	184,380	228,479	227,343	252,235	241,135	225,096	262,858	247,144	237,303	235,585	203,562	2,702,762
1882.....	210,455	209,708	208,981	207,454	255,939	.....	.....	.....	.....	.....	.....	.....	.....
CHICAGO AND ALTON:													
1880.....	534,054	497,013	626,473	542,961	616,128	617,524	708,906	761,120	767,349	785,199	696,776	574,695	7,718,198
1881.....	487,890	461,641	520,915	558,190	548,556	616,935	671,466	771,466	768,897	750,359	680,133	635,397	7,553,988
1882.....	579,447	530,480	584,483	561,787	553,412	.....	.....	.....	.....	.....	.....	.....	.....
CHICAGO AND NORTHWESTERN:													
1880.....	1,154,632	1,131,683	1,361,725	1,294,573	1,875,608	1,671,177	1,699,686	1,767,938	2,020,245	2,105,217	1,355,671	1,477,902	19,416,007
1881.....	1,240,667	963,208	1,178,795	1,879,006	2,306,640	2,306,640	1,893,031	2,315,104	2,292,676	2,341,097	2,019,037	1,855,476	21,849,209
1882.....	1,620,336	1,471,945	1,696,568	1,634,819	2,058,133	2,022,100	.....	.....	.....	.....	.....	.....	.....
CHICAGO, BURLINGTON AND QUINCY:													
1880.....	1,432,740	1,411,870	1,732,518	1,489,894	1,909,627	1,682,956	1,773,643	1,834,321	1,862,285	1,934,762	1,837,860	1,552,018	20,454,494
1881.....	1,307,948	1,034,821	1,418,149	1,574,371	1,679,455	2,083,803	1,888,558	2,173,945	2,262,981	2,031,001	1,816,133	1,995,490	21,324,150
1882.....	1,658,834	1,457,300	1,566,217	1,530,838	.....	.....	.....	.....	.....	.....	.....	.....	.....
CHICAGO, MILWAUKEE AND ST. PAUL:													
1880.....	764,298	738,749	900,675	871,041	1,134,745	1,037,958	1,026,708	991,297	1,257,677	1,493,620	1,472,037	1,397,308	13,086,119
1881.....	990,847	882,717	916,989	1,259,946	1,538,491	1,729,811	1,560,000	1,678,000	1,645,000	1,590,000	1,569,000	1,855,000	17,025,462
1882.....	1,435,000	1,377,000	1,561,000	1,518,000	1,629,000	1,620,000	.....	.....	.....	.....	.....	.....	.....
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA:													
1880.....	193,827	173,078	259,783	259,208	232,146	218,093	236,995	251,013	300,833	342,052	342,894	312,173	3,122,097
1881.....	257,786	158,594	251,648	251,211	350,124	404,562	392,702	385,586	363,685	382,714	380,733	391,950	3,981,296
1882.....	307,498	315,100	405,779	356,558	406,420	.....	.....	.....	.....	.....	.....	.....	.....
CINCINNATI, INDIANAPOLIS, ST. LOUIS AND CHICAGO:													
1880.....	155,697	172,541	198,220	168,199	186,995	200,332	204,138	233,478	343,627	239,881	209,014	198,254	2,412,185
1881.....	182,523	171,511	191,005	183,710	191,066	188,256	178,861	229,858	219,977	212,606	194,805	192,623	2,296,916
1882.....	200,042	186,879	208,066	204,269	199,110	.....	.....	.....	.....	.....	.....	.....	.....
DENVER AND RIO GRANDE:													
1880.....	124,759	126,922	160,883	144,882	193,925	295,455	373,132	400,133	406,583	473,318	408,562	349,196	3,478,007
1881.....	307,476	317,681	398,493	433,111	514,767	584,230	548,284	606,193	620,643	665,686	566,819	643,417	6,206,812
1882.....	491,914	412,987	535,055	559,917	614,298	537,462	.....	.....	.....	.....	.....	.....	.....
HANDBAL AND ST. JOSEPH:													
1880.....	176,079	166,965	216,061	206,735	191,317	179,396	224,312	238,081	233,448	242,214	207,147	279,635	2,561,391
1881.....	144,401	122,874	176,356	190,812	172,950	194,949	198,110	215,308	202,567	313,433	201,782	180,376	2,230,966
1882.....	138,284	154,717	168,798	148,913	154,917	.....	.....	.....	.....	.....	.....	.....	.....
ILLINOIS CENTRAL:													
1880.....	595,212	613,806	613,008	535,732	665,120	681,736	724,095	732,755	806,836	880,211	783,120	673,182	8,304,812
1881.....	631,281	524,499	557,789	662,493	673,250	803,887	720,004	868,407	828,847	815,238	737,218	763,475	8,586,397
1882.....	728,173	689,387	695,371	674,603	674,749	.....	.....	.....	.....	.....	.....	.....	.....
INDIANA, BLOOMINGTON AND WESTERN:													
1880.....	80,498	89,690	116,185	90,374	85,733	106,954	103,438	116,732	110,622	121,343	96,621	104,619	1,233,079
1881.....	90,283	83,261	192,085	203,677	200,064	96,586	83,764	117,956	195,307	181,674	160,826	156,697	.....
1882.....	195,824	175,755	206,235	205,934	182,554	.....	.....	.....	.....	.....	.....	.....	.....
LOUISVILLE AND NASHVILLE:													
1880.....	674,455	575,035	612,593	563,883	655,014	976,229	772,537	827,088	931,910	1,000,326	953,086	949,184	9,491,346
1881.....	816,960	805,124	947,959	850,862	828,726	1,227,885	817,135	876,192	951,566	1,002,950	1,005,223	1,122,285	11,326,859
1882.....	950,065	960,036	1,073,745	950,007	946,435	.....	.....	.....	.....	.....	.....	.....	.....
MOBILE AND OHIO:													
1880.....	250,116	204,094	168,301	140,091	129,249	121,835	131,621	140,593	184,246	264,714	251,368	287,373	2,373,621
1881.....	224,347	216,768	230,916	163,551	145,803	136,517	131,009	159,348	209,044	252,921	252,434	262,025	2,406,437
1882.....	161,433	158,154	152,651	145,272	137,645	132,572	.....	.....	.....	.....	.....	.....	.....
NASHVILLE, CHATTANOOGA AND ST. LOUIS:													
1880.....	205,633	191,154	169,457	155,466	158,839	144,155	151,594	169,326	167,473	178,266	182,087	175,996	2,049,448
1881.....	178,143	190,866	207,710	183,525	104,430	154,549	150,430	166,317	179,979	172,121	152,059	173,127	2,075,256
1882.....	156,994	159,961	161,005	154,155	137,645	.....	.....	.....	.....	.....	.....	.....	.....
NEW YORK AND NEW ENGLAND:													
1880.....	164,232	149,907	182,845	179,689	183,701	219,891	205,056	249,885	235,642	215,491	210,856	198,108	2,396,302
1881.....	189,749	173,614	212,019	216,913	217,185	231,518	246,821	280,524	299,573	261,199	242,412	237,729	2,809,255
1882.....	213,840	217,261	265,222	265,544	283,244	290,000	.....	.....	.....	.....	.....	.....	.....
NEW YORK, LAKE ERIE AND WESTERN:													
1879.....	1,147,173	1,207,391	1,356,780	1,372,755	1,350,574	1,230,419	1,273,533	1,450,223	1,492,497	1,713,697	1,515,835	1,398,224	16,509,127
1880.....	1,296,381	1,252,218	1,444,958	1,434,151	1,592,544	1,661,812	1,580,976	1,606,874	1,786,417	1,899,910	1,799,338	1,726,788	19,149,361
1881.....	1,443,437	1,425,765	1,847,261	1,799,057	1,776,891	1,794,982	1,772,081	1,772,895	1,734,200	.....	.....	.....	.....
NORTHERN CENTRAL:													
1880.....	334,494	330,860	415,325	386,130	329,788	419,193	450,298	453,923	464,093	512,918	459,054	494,310	5,050,387
1881.....	386,157	382,657	452,906	487,273	465,588	487,287	440,811	498,008	429,565	449,664	487,160	476,622	5,443,697
1882.....	407,368	413,551	430,194	435,129	482,607	.....	.....	.....	.....	.....	.....	.....	.....
NORTHERN PACIFIC:													
1880.....	81,390	77,259	119,357	185,700	217,613	253,105	241,277	223,500	330,300	358,456	300,822	220,993	2,629,710
1881.....	116,508	78,803	162,984	216,210	312,705	412,024	404,180	411,624	490,096	505,485	428,903	434,331	4,044,576
1882.....	239,800	269,000	384,000	438,000	568,332	631,342	.....	.....	.....	.....	.....	.....	.....
PHILADELPHIA AND ERIE:													
1880.....	224,307	245,372	327,678	334,947	311,470	331,024	308,699	347,532	322,737	367,082	324,966	281,919	3,727,733
1881.....	224,303	225,501	285,573	293,323	343,792	350,585	291,669	303,849	276,522	292,392	284,078	282,772	3,454,309
1882.....	259,727	246,246	265,311	277,851	341,415	.....	.....	.....	.....	.....	.....	.....	.....
ST. LOUIS AND SAN FRANCISCO:													
1880.....	198,091	195,948	193,146	176,164	167,664	173,607	213,297	259,995	280,873	328,194	290,329	226,063	2,698,371
18													

CORRESPONDENCE.

[We pay no attention to communications unless the name and address of the writer are given, though the same will not be published if so requested. We assume no responsibility for statements made by correspondents, and we do not necessarily endorse ideas advanced by them. Under these conditions we think it of value to our readers to devote a liberal space to the free discussion by others—whose opinions may be at variance with our own—of subjects pertinent to our department of journalism.]

The First Locomotive.

Editor AMERICAN RAILROAD JOURNAL:

There seems to be at the present time an active inquiry into the history of the first locomotive run upon railroads in this country. I have been engaged in interests connected with railroading in this country for many years, and have collected a great amount of statistical information connected with their early history. The difficulty in ascertaining to a certainty which of four roads is really entitled to the credit of using the first locomotive arises principally from the fact that this then new discovery of the steam motor upon land was developed and applied by several companies almost simultaneously in this country.

There is no question that the first one hundred miles of continuous road was constructed by the South Carolina Railroad Company; but they were not the first to use steam locomotives. The honor of introducing into use the first locomotive for railroads in this country belongs to our fellow-citizen, the late Horatio Allen. Mr. Allen was in his day eminently an engineer, probably one of the most accomplished in America, and in after life connected with the Novelty Iron Works of this city.

Mr. Allen received his collegiate education at old Columbia, graduated about 1822, and commenced his professional life in, say, 1824, as a civil engineer. Within one year from the above date he was engaged upon the Delaware and Hudson Canal as assistant engineer. He, however, did not remain long in that position; he resigned, and went to Europe, attracted thither by the reports of the wonderful achievements of George Stephenson in England. It was during this visit to England that he was engaged to take charge of the contracts for iron to be used in the construction of the Delaware Canal and also to superintend the construction, transportation and putting up of a locomotive for the use of the Delaware and Hudson Canal. Mr. Allen returned in 1829, bringing with him the first locomotive ever put upon a railroad in this country. The locomotive was called "The Stourbridge Lion." It was built for and used by the Delaware and Hudson Canal Company upon a road built by that company for the conveyance of coal in connection with the canal.

This road was built in 1828, from their coal mines to Honesdale, Pa. The locomotive referred to came on in the ship "John Jay," and at about the beginning of July, 1829, it was taken to Rondout, N. Y., thence to Carbondale, Penn., and put upon the road.

This we know beyond a question to be the first locomotive ever used in America. Further than being the first locomotive for use upon

railroads ever brought to or made in this country, there was little credit attached to it. The machine proved too heavy for use upon the road, and after a few trips was abandoned, placed under cover and offered for sale.

F.

Color Blindness.

Editor AMERICAN RAILROAD JOURNAL:

I read with great interest Dr. Herriek's article on "Railroad Sanitary Service" in your issue of June 24th. While cordially agreeing with him in the main, I have a few words to add by way of commentary upon some of the conclusions which might be deduced from his remarks in regard to the class of cases coming under the above heading.

It would appear that he favors adding to the duties of the ordinary railroad surgeon, that of examining the employes for color-blindness and other visual defects, and it is just here where I think a word in the interest of said employes is in order. The locomotive engineers of the United States, whom these investigations particularly affect, are as a class noble specimens of humanity—courageous, quick of eye and nerve, ready for any emergency, the very knights-errants of the nineteenth century.

To me there always appeared to be something heroic in this otherwise prosaic age, in the spectacle of one of these men standing calmly at the throttle of his engine, peering into the murkiness of a stormy night and "letting her go" at forty miles an hour into the blackness ahead without a thought of fear, literally holding the lives of the train load of drowsy passengers behind and his own to boot in the firm grasp of his hand. The chivalry of more than one of these brave fellows, who have boldly ridden "into the jaws of Death, into the mouth of Hell," rather than desert their post is embalmed in song and story. We must be extremely careful to do no injustice to any member of such a generally worthy body of men. The necessity for proper legal restrictions as to the employment in responsible positions of men unfortunately incapacitated by reason of organic defects must of course be admitted, but it will not do to ignore the popular view of the matter. Every possible safeguard must be adopted to render such investigation as little obnoxious as possible, and to insure their causing the minimum amount of hardship. That there are two sides to the question, and that a fierce controversy has been and in fact is still raging between the champions of either side, is well known to those who are familiar with the subject. The Massachusetts Railroad Commissioners in their report about a year ago, speak as follows: "It is a noteworthy fact that the law as to the examination of railroad employes for color-blindness enacted in Connecticut, on the execution of the law proved to be so unpopular that both political parties felt obliged to promise in their platform its speedy and essential modification."

Petitions were gotten up and presented to the legislature to do away with the law, and the agitation even proceeded so far that a hearing was obtained with that object in view.

The popular aspect of the case is so well presented by no less a man than Wm. S. Hunt-

ington, of the Chesapeake & Ohio Railroad, in the May number of *The National Car Builder*, that I cannot do better than transcribe it verbatim for the benefit of those who may not have had the opportunity of reading it.

COLOR-BLINDNESS, SCIENCE AND NONSENSE.

"Most railroad men are familiar with the rules and regulations that are being adopted with respect to color-blindness of railroad employes.

"Examinations have disclosed the fact that a great many of these employes have defective vision, which it is claimed renders them unfit for service, and as a measure of safety they are discharged. Everything that contributes to the safety of the traveling public should receive the earnest attention of railroad officials and of the legislative authorities; but there is room for much injustice to the employes in the enforcement of some of the laws that have recently been enacted on this subject. It is expected, of course, that great care will be exercised in the selection of men to fill responsible positions, but there is a possibility that too much mere professional science may be brought to bear upon the matter.

"A few years since the good people of Massachusetts were horrified to learn that many of the locomotive engineers on the roads of that State were color-blind, and scientific experts were at once employed to detect the men who were afflicted with the dangerous infirmity.

"One of the men who was examined had stood at the throttle of a passenger engine for sixteen years, during which time the trains he had run carried millions of people without an accident, and he was familiarly called 'Old Reliable.' He perfectly understood the meaning of all the colored targets and semaphores by day and the different colored lights by night. He was always detailed to run trains requiring extra skill and care, and thousands who had come to know him felt safe when he was on the engine. But on an evil day a man of science came along with a basket of worsted yarn of a hundred colors more or less, and 'Old Reliable,' having never been employed in a hosiery establishment, failed to match the different shades as a trained expert would do it, and the shocking discovery was then and there made that millions of passengers had in all those years miraculously escaped death at the hands of the engineer who could not match worsteds; and he was thereupon summarily 'worsted' and ousted.

"A shudder ran through New England at the appalling discovery that there were a score or more of railroad operatives in their very midst who were not experts in discriminating delicate shades of color. The dangers to which the traveling community had been exposed were none the less real because they had been escaped. But in future there is nothing to fear. All these men, whose defective vision through years of faithful service had brought never a one to grief, have been removed and their places filled by others, who are at least competent to run haberdashery shops, whatever may be their accomplishments in the handling of locomotives. This, I submit, is a gross injustice to a most worthy class of men, and it is to be hoped that such doings will not gain a

permanent foothold in our railroad practice.

"In a recent examination of a large number of railroad operatives it was discovered that two brakemen, who had been in service eighteen years, could neither read nor write, and they were immediately discharged. They had the misfortune to be illiterate, and had their places been filled with a couple of college professors a great many people would probably have breathed easier.

"Years ago, a New England village blacksmith lost one of his eyes through some mishap. Not liking his trade, he found employment as a locomotive fireman, and in a few months he was engineer of a construction train. In a few months more he was running freight, and was finally promoted to the throttle of a fast passenger engine.

"This was thirty years ago, and he is now running passenger trains through the valleys and along mountain sides, and there is no safer man than he. The truth of the matter is, he has no eye for anything but his own business. His visual defect has not yet been discovered by the authorities, but when it is discovered he will probably give place to some man whose 'luck' in handling trains is not a whit better, and, it may be, not as good.

"In saying this much, it must not be inferred that as a rule it is safe to employ men in such capacities who labor under physical or mental disability, but I do say, and say it with emphasis, that to discharge men for some trivial defect, fancied or real, who have served for years in the most satisfactory manner is the sheerest nonsense, absurdity and injustice. It may be argued that illiteracy, the loss of an eye, or inability to match worsteds are not trivial defects; but it is a fact, nevertheless, that hundreds of competent and trustworthy men, who are deficient in some of these points are dismissed from employment as often as the man of science happens around with his basket of colored yarns.

"Science is certainly a good thing in its way, and so is consistency, which is not infrequently called a jewel. It is a well-known fact that the loss or permanent injury of one organ or limb of the body increases the strength of the remaining ones. The loss of one eye gives additional power to the other, total blindness renders the hearing more acute, and it is the same with respect to legs and arms. The consciousness of any particular defect reinforces all the other faculties of mind and body by way of compensation.

"There is a freight brakeman on one of the roads running from Chicago who is as deaf as a post, but his efficiency in his vocation is such that he would not be exchanged for any other man in the land. Nothing escapes his vision. He always moves at the right time and in the right direction, is always on hand when wanted, the first to discover anything wrong, and is always the main dependence in an emergency. But science will find him some day, and a musical director will probably fill his place—on the pay-roll.

"Reliability derived from experience is the prime qualification for positions of responsibility on railroads. To weed out such men and cast them aside at the bidding of scientific

theorists is certainly neither politic nor safe.

"If color-blindness is as dangerous in railway practice as these theorists say it is, it is not to their credit that they have suffered all these thirty years to elapse before warning people of their danger."

Undoubtedly much of this state of feeling exhibited in Mr. Huntington's article, who cannot be accused of being anything but a cool, dispassionate man, is due to the injustice wrought by the operation of the Massachusetts regulations, which recommend that such examinations may be conducted by the superintendent or some other official of the railroad.

The result was as might have been expected, that men not at all color-blind were declared to be so, and vice versa. It is here where I would differ somewhat from the view apparently advanced by Dr. Herrick. I doubt the fitness of the ordinary railroad surgeon to conduct such an examination, and would not prescribe that as one of his duties.

Doubtless if his emoluments were such as to make it an object to fit himself by a special course of instruction, or if the railroad companies would provide such a course, this objection would not obtain; but those familiar with the operation of present systems of railroad surgical supervision know how little can be expected in these ways.

Dr. B. Joy Jeffries, of Boston, the leading authority on the subject in this country, insists strongly that only experts thoroughly conversant with color-blindness can do full justice to the employees. In the course of some remarks enforcing this view he used the following language:

"In Europe railroad officials were first directed to make these investigations, and utterly failed in finding who were and who were not color-blind, or had defective vision. Then the tests were put in the hands of the railroad surgeons, and they failed in like manner, till they were thoroughly instructed by the only really competent experts, namely, ophthalmic surgeons, familiar with such examinations and able to understand and discriminate."

In another place he quotes the following letter from Professor Donders, of Utrecht, Holland, the first living authority as to what constitutes normal vision, and chief of the inspection and control of color-blindness and visual power in that country, forwarded through his assistant, Dr. Boudin, one of the ophthalmic surgeons appointed to test employees:

UTRECHT, DECEMBER 15, 1879.

Herewith you will find the statement of Professor Donders, who always argued, as you have seen in the earlier communications, that the examination should be fulfilled by men who are ophthalmic surgeons or physicians able to examine the eyes.

I believe that the simple statement of Professor Donders will be quite sufficient for your purpose.

With compliments of Professor Donders, yours, very respectfully,

BOUDIN.

I most willingly testify that it is my full conviction that only medical experts, ophthalmic surgeons, should be employed in testing color perception and acuteness of vision.

PROF. DONDEBS.

UTRECHT, DECEMBER 15, 1879.

Professor Hohnngen, of Upsala, Sweden, the first to introduce the well-known and now universally adopted worsted tests, originator of

the present movement for the control of color-blindness, and chief of said control in Sweden, speaks as follows:

"Medical education is here absolutely necessary. My method is practically so simple that it would seem as if it would be successful in the hands of any physician. In my experience, however, this has never been the case. Time has ever shown that quite competent ophthalmic surgeons have misunderstood it and applied it improperly. In Sweden the railroad surgeons have been practically and specially instructed 'de visu' by me, and we have had every reason to be satisfied with this.

"There are many cases which no railroad official can detect or decide, and not even the ordinary railroad surgeon can be sure of. I therefore hold what I have emphasized in my book, that the authorities must employ a man having the highest special knowledge, who shall be at the head of the control, * * * as thorough knowledge of the whole subject is a necessary requisite for testing the employees."

These extracts are sufficient to show that only those specially adapted by education and experience are competent to decide such cases, and certainly such is not the position of the ordinary railroad surgeon. Neither is it to be expected that the railroad companies will provide special courses of instruction for their surgeons, as they have done in Europe, until the day comes of which I have spoken in a previous article, when a surgical department will be an integral part of every railroad system.

I do not wish to be understood as controverting any of Dr. Herrick's positions, but rather as taking one of his suggestions which is liable to be construed as I have done, as a text for the discussion, in one of its bearings, of a subject which is at present agitating the railroad world so deeply.

W. C. S.

MARENGO, IOWA, JULY 9, 1882.

Ramapo Wheel Foundry and Iron Works.

We had an opportunity on Monday, to visit the Ramapo Wheel and Foundry Company's works, and the Ramapo Iron Works, at Ramapo, N. Y., a thriving town most pleasantly situated among mountains, and bordering on Ramapo Lake, which, with the Ramapo River, supplies abundant water-power.

The Ramapo Wheel and Foundry Company is making large numbers of chilled wheels, the Congdon Brake Shoes and the Raoul Journal Boxes. Great care is taken in the selection of materials, and in the various processes of manufacture, and as a natural result the company's products have a high reputation in this and other countries. Many wheels for locomotives and passenger cars have been exported to Spain, Mexico, Canada, Cuba, Brazil and the west coast of South America, while a large number are in use in this country. This company was the first to manufacture forty-two inch wheels for passenger service, and a considerable number are now in use with good results. Of the thirty-three inch wheels one was removed from a Pullman Palace car which had run more than 236,000 miles, and many of them have exceeded 100,000 and 150,000 miles.

By a very thorough manner of keeping the accounts relative to material and manufacture, and the record of subsequent service rendered, Mr. W. W. Snow—who is the superintendent and manager—is able to trace the causes of excellence, or any defects which may appear. The Salisbury and Richmond irons, which possess great excellence, are exclusively used here, and careful observation and long practice have enabled the management to make such mixtures of the products of the different furnaces as conduce to the greatest durability and reliability of the wheels manufactured here. The Company have so much confidence in the superior endurance of the forty-two inch wheel over the thirty-three, that, taking mileage as a basis for figures, they sell the forty-two inch wheel at a much lower price than the thirty-three inch.

THE CONGDON IMPROVED CAR BRAKE SHOES

are also manufactured here in very large numbers, and they have been adopted by more than seventy-five railroad companies, and the Pullman Palace Car Company, and the demand is constantly increasing. The improvement consists in the incorporation of a number of pieces of wrought iron in the body of the cast-iron shoe, so arranged that they appear on the wearing surface of the shoe, and the resistance to wear and the life and service of the wheel are thereby greatly increased. In fact it is claimed that every Congdon Shoe of average weight effects a saving of a dollar to the consumer, and that it will outwear four ordinary cast-iron shoes; and as brake shoes are the part of a car which must most frequently be repaired and replaced, the improvement is considered a most important one by all who have tested it, as is shown in the constant demand.

This company also manufacture the Raoul Journal Box, for which they control a right for part of the country, the rest being in the hands of the Columbus Iron Works, of Columbus, Ga. This box is designed to provide an end-stop for the axle, and thereby dispense with the shoulder and collar, and at the same time not obstruct the process of packing the box. The journal may be made any desired length and diameter. The life of the axle is doubled; the expense of brasses and lubricants enormously reduced; end wear of brasses and hot boxes obviated. It is now in successful operation on trucks of engines, tenders, passenger and freight cars.

THE RAMAPO IRON WORKS,

which are located a short distance from the Ramapo Wheel and Foundry Company's works, are under the superintendence of Mr. F. W. Snow, a son of Mr. W. W. Snow. The buildings consist of two substantial brick structures, one 160x60 feet, and the other 160x50 feet, which have been constructed since last August. The smaller building is used as a foundry, and the other down-stairs as a machine shop and a blacksmith shop, while up-stairs we found a light, commodious office, pattern-room, draughting-room and engineer's office. All the machinery is of the most approved modern pattern, adapted to the manufacture of the Tracey Safety Switch, Safety Switch Stands and Stub Switch Stands, keyed, riveted and bolted frogs; reversible and interchangeable double and

single railroad crossings, time-tables, and articles of general railroad equipment. It is a rule here never to heat steel rails in making switches and frog points, and all are planed cold. The motive power is furnished by an 80-horse power Corliss engine. The Tracey Safety Switch and Switch Stand have already been adopted by some thirty different roads, so that orders have come in so fast that it will take several months to fill those already received. The stand is so arranged that it can be used in connection with the old split switches, so that they become safety switches, while it is claimed that with the Tracey Switch and Stand absolute safety is assured, as the switch is a combination of the advantages of a practically unbroken rail on the main line, with a uniform elevation of the rails; and an arrangement which secures all the benefits of a spring movement of the rails without a spring in direct connection, while the stand *cannot be locked unless the switch is fully open or fully closed*. The switch and stand were invented and patented by Mr. Dwight Tracey, of Ridgewood, N. J., from whom the Ramapo Iron Works secured exclusive rights. The claim in the specification which forms part of the patent relating to the switch is as follows:—

1. The combination, in a switch, of a movable switch-rail forming one rail of the turn-out, a stationary frog-rail forming a portion of the opposite side of the main track, and a laterally yielding outer frog-rail and a guard rail placed upon opposite sides of said stationary frog-rail, and connected positively together, so as to move simultaneously.

2. The combination, in a switch, of a movable switch-rail forming one rail of the turn-out, an outer frog-rail constructed and secured so as to form a laterally yielding spring, and forming the other rail of the turn-out, and a continuation of the main rail, a stationary frog-rail upon the inner side of said outer frog-rail, and a guard-rail connected with said outer frog-rail.

3. The combination, in a switch, of a movable switch-rail forming one rail of the turn-out, a stationary frog-rail forming a portion of the opposite side of the main track, and an outer frog-rail and a guard-rail arranged on opposite sides of said stationary frog-rail, both constructed and secured so as to form laterally yielding springs, and connected positively together, so as to move simultaneously.

4. The combination, in a switch, of a laterally yielding outer frog-rail forming one rail of the turn-out and one rail of the main line, and a continuation of the main line adjacent to said turn-out rail, which is deeper than said outer frog rail, and over the flange of which said outer frog-rail may be moved.

5. The combination, with a fixed rail-point, of wing-rails rigidly secured to the sleepers at their ends, suitably spaced and secured together at their middle parts, and adapted to be sprung either way, so that one of said wing-rails shall be immediately adjacent to said rail-points.

For the switch stand it is claimed that it is designed to obviate the dangers which arise in the use of safety switches when an obstruction gets between the switch rails and main rails, so

that while the switch tender can completely turn the handle and lock the switch, the switch is not properly placed, and is only partially set. The Tracey Switch offers a "combination, with a switch-moving rod to be positively connected with a switch, of a switch-stand of novel construction, which cannot be locked unless the switch is fully open or fully closed, and which permits the whole moving-rod to be moved longitudinally when the switch is opened by a passing train."

Another feature of the invention "relates to switch-stands for both safety and stub switches in which the switch-moving rod is actuated by a moving crank upon the end of a spandle in the switch-stand;" and another object "is to relieve the spandle and crank from all strain to which they are commonly subjected by the thrust upon the moving-rod when the switch is locked and a train is passing."

The following is a portion of the claim contained in the specification of the patent:

1. The combination of a switch-moving rod and a switch-stand provided with interlocking lugs or catches, having inclined engaging-faces, and one of which is adapted to yield to enable the lug or catch upon the rod to pass the lug or catch upon the stand.

2. The combination of a switch-moving rod and a switch-stand provided with interlocking lugs or catches, having inclined engaging-faces, and one of which is adapted to yield to enable the lug or catch upon the rod to pass the lug or catch upon the stand, and a spring for maintaining said lugs or catches in engagement with each other.

3. The combination of a switch-moving rod and a switch-stand provided with interlocking lugs or catches, having inclined engaging-faces, a spindle adapted to yield longitudinally, a crank upon said spindle for actuating said moving-rod, and a spring for returning said spindle and crank.

5. The combination of a switch-moving rod and a switch-stand provided with interlocking lugs or catches, a spindle, a slotted crank, and a crank-pin fixed to the said rod and fitting the slot in said crank, whereby provision is afforded for moving the rod laterally to disengage the lug or catch from the lugs or catches upon said stand, and for moving it longitudinally for shifting the switch.

6. The combination of a switch-moving rod and a switch-stand provided with interlocking lugs or catches, a spindle, and a slotted crank, a crank-pin fixed to said moving-rod and fitting said slotted crank, and a locking pot projecting on the side of said rod for precluding lateral movement thereof.

7. The combination, with a switch-moving rod and a switch-stand provided with interlocking lugs or catches, a spindle, and a slotted crank for operating said rod, and a locking-bolt projecting on the side of said rod and precluding lateral movement thereof, of a handle adapted to be moved horizontally to turn said spindle, and raised or lowered to actuate said locking-bolt.

Both the switch and stand are giving great satisfaction, and are highly commended.

SUBSCRIBE for the RAILROAD JOURNAL.

Statement of the Public Debt of the United States, July 1, 1882.

DEBT BEARING INTEREST.		
	Amount Outstanding.	Accrued Interest.
6 per cent loan, 1861-'81, continued at 3½ per cent.	\$11,137,050 00	\$194,898 37
6 per cent loan 1863-'81 continued at 3½ per cent.	47,820,100 00	836,851 75
5 per cent funded loan of 1881.....	401,503,900 00	2,342,106 08
4½ per cent funded loan of 1891.....	250,000,000 00	937,500 00
4 per cent funded loan of 1907.....	738,884,300 00	7,388,843 00
4 per cent refunding certificates.....	465,050 00	4,650 50
3 per cent navy pension fund.....	14,000,000 00	210,000 00
Aggregate of debt bearing interest.....	\$1,463,810,400 00	\$11,914,849 70
Interest due and unpaid.....		1,435,158 42
DEBT ON WHICH INTEREST HAS CEASED SINCE MATURITY.		
	Amount Outstanding, and unpaid	Interest due
4 to 6 per cent. old debt, 1837.	\$57,665 00	\$64,174 81
5 per cent. Mexican indemnity stock, 1846.....	1,104 91	85 74
6 per cent. bonds, 1847-'67.	1,250 00	22 00
6 per cent. bounty land scrip, 1847-'49.....	3,275 00	213 06
5 per cent. Texas indemnity bonds, 1850-'64.....	20,000 00	2,945 00
5 per cent. bonds, of 1858-'78	7,000 00	875 00
5 per cent. bonds, of 1860-'71	10,000 00	600 00
6 per cent. 5-20 bonds, 1862, called.....	370,000 00	8,333 14
6 per cent. 5-20 bonds, June 1864, called.....	57,450 00	1,055 12
6 per cent. 5-20 bonds, 1863, called.....	70,750 00	18,635 41
5 per cent. 10-40 bonds, 1864, called.....	384,700 00	68,889 05
6 per cent. Consol. bonds, 1865, called.....	382,800 00	13,688 11
6 per cent. Consol. bonds, 1867, called.....	962,750 00	117,395 38
6 per cent. Consol. bonds, 1868, called.....	373,500 00	22,465 59
6 per cent. loan, Feb. 8, 1861, matured Dec. 31, 1880.....	82,000 00	5,070 00
5 per cent. funded loan 1881, called.....	1,171,600 00	20,695 83
Oregon War Debt, March 2, 1881, matured July 1, 1881.	12,950 00	1,855 50
6 per cent loan of July 17 and Aug. 5, 1861, matured June 30, 1881.....	679,300 00	20,197 50
6 per cent loan of July 17 and Aug. 5, 1861, continued at 3½ per cent, matured Dec. 24, 1881, and Jan. 29, 1882, called.....	10,940,400 00	85,109 58
6 per cent. loan of March 3, 1863, matured June 30, 1881.	214,900 00	8,224 50
1-10 to 6 per cent. Treasury notes, prior to 1846.....	82,525 35	2,668 06
1-10 to 6 per cent. Treasury notes, 1846.....	6,000 00	206 00
6 per cent. Treasury notes, 1847.	950 00	57 00
3 to 6 per cent. Treasury notes, 1857.....	1,700 00	99 00
6 per cent. Treasury notes, 1861.	3,000 00	304 50
7 3-10 per cent. 3 years' Treasury notes, 1861.....	16,300 00	1,104 43
5 per cent. 1 year notes, 1863..	42,065 00	2,115 35
5 per cent. 2 year notes, 1863.	32,900 00	1,642 30
6 per cent. compound interest notes, 1863-64.....	220,960 00	45,133 87
7 3-10 per cent. 3 years' Treasury notes, 1864-65.....	138,950 00	20,439 03
6 per cent. certificates of indebtedness, 1862-63.....	4,000 00	253 48
4 to 6 per cent. temporary loan, 1864.....	2,960 00	244 19
3 per cent. certificates, called.	5,000 00	394 31
Aggregate of debt on which interest has ceased since maturity.....	\$16,260,805 26	\$535,251 84
DEBT BEARING NO INTEREST.		
Demand notes, 1861-62.....	\$59,695 00	
Legal tender notes, 1862-63.....	346,681,016 00	
Certificates of Deposit.....	13,320,000 00	
Coin certificates, 1863.....	5,037,120 00	
Silver certificates, 1878.....	66,096,720 00	
Unclaimed interest.....		5,726 51
Fractional currency, 1862, 1863 and 1864 \$15,423,181 77		
Less amount estimated as lost or destroyed, act of June, 21, 1879.....	8,375,934 00	
	7,047,247 77	
Aggregate of debt bearing no interest.....	\$438,241,788 77	\$5,726 51

RECAPITULATION.

	Amount Outstanding.	Interest.
Debt bearing interest in coin, viz:		
Bonds at 6 per cent., continued at 3½ per cent.	\$58,957,150 00	
Bonds at 5 per cent., continued at 3½ per cent.	401,503,900 00	
Bonds at 4½ per cent.....	250,000,000 00	
Bonds at 4 per cent.....	738,884,300 00	
Refunding certificates...	465,050 00	
Navy pension fund, 3 p.c.	14,000,000 00	
	\$1,463,810,400 00	\$13,350,008 12
Debt on which interest has ceased since maturity.	16,260,805 26	535,251 84
Debt bearing no int., viz:		
Old demand and legal-tender notes.....	\$346,740,711 00	
Certificates of deposit....	13,320,000 00	
Coin & silver certificates...	71,133,830 00	
Fractional currency.....	7,047,247 77	
	\$438,241,788 77	
Unclaimed interest.....		5,726 51
	\$1,918,312,994 03	\$13,890,986 47
Total debt, principal and interest to date, including interest due and unpaid...	\$1,932,203,980 50	
AMOUNT IN TREASURY.		
Interest due and unpaid.....	\$1,435,158 42	
Debt on which interest has ceased.....	16,260,805 26	
Interest thereon.....	535,251 84	
Gold and silver certificates.....	71,133,830 00	
U. S. notes held for redemption of certificates of deposit.....	13,320,000 00	
Cash balance available July 1, 1882.....	140,604,474 26	
	\$243,289,519 78	
Debt, less am't in Treasury July 1, 1882....	\$1,688,914,460 72	
Debt, less am't in Treasury June 1, 1882....	1,701,475,157 42	
Decrease of debt during the month.....	\$12,560,696 70	
Decrease of debt since June 30, 1881....	\$151,684,351 26	
BONDS ISSUED TO THE PACIFIC RAILROAD COMPANIES, INTEREST PAYABLE IN LAWFUL MONEY.		
	Amount Outstanding.	Accrued Interest not paid.
Central Pacific bonds, 1862-64 \$25,885,120 00	\$25,885,120 00	\$776,553 60
Kansas Pacific bonds, 1862-64 6,303,000 00	6,303,000 00	189,690 00
Union Pacific bonds, 1862-64 27,236,512 00	27,236,512 00	817,095 36
Cent. Branch Union Pacific bonds, 1862-64.....	1,600,000 00	48,000 00
West'n Pacific bonds, 1862-64 1,970,560 00	1,970,560 00	59,116 80
St. Louis City & Pacific bonds, 1862-64.....	1,628,320 00	48,849 60
Totals.....	\$64,623,512 00	\$1,938,705 36
Interest paid by the United States, \$53,405,977-38; interest repaid by transportation of mails, &c., \$15,220-693-30; interest repaid by cash payments: 5 per cent net earnings, \$655,198-87; balance of interest paid by United States, \$37,530,085-21.		
The foregoing is a correct statement of the public debt, as appears from the books and Treasurer's returns in the Department at the close of business, June 30, 1882.		
CHARLES J. FOLGER, Secretary of the Treasury.		

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OFFICE CENTRAL PACIFIC RAILROAD COMPANY, }
SAN FRANCISCO, July 12, 1882.

THREE DOLLARS PER SHARE WILL BE PAID ON presentation of Dividend Warrant No. 14 on and after August 1, at this office, or at the office of the Company, 23 Broad Street, New York. Transfer books will be closed from 2.15 P. M. July 15, to 10 A. M. August 1 by order of the Board of Directors.

E. H. MILLER, JR., Secretary.

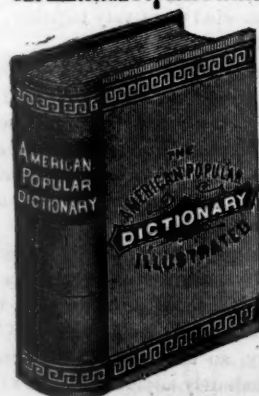
THE LAKE SHORE AND MICHIGAN SOUTHERN RAILWAY CO.
TREASURER'S OFFICE, GRAND CENTRAL DEPOT, }
NEW YORK, June 27, 1882.

The Board of Directors of this company have this day declared a QUARTERLY DIVIDEND OF TWO PER CENT upon its capital stock, payable on Tuesday, the first day of August next, at this office.

The transfer-books will be closed at 3 o'clock P. M. on MONDAY the THIRD DAY OF JULY next, and will be re-opened on the morning of Friday, the fourth day of August next.

E. L. WORCESTER, Treasurer.

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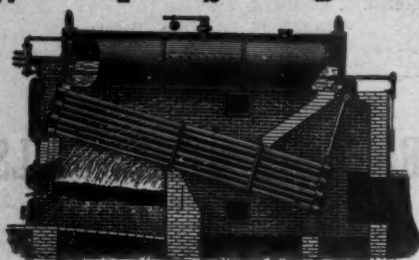
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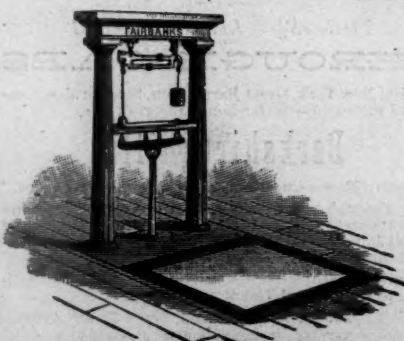
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